



Repair Manual

- Golf Variant 2007 ➤
- Golf Variant 2010 ➤
- Jetta 2005 ➤
- Jetta 2011 ➤

5-Speed Manual Transmission 0AF

Edition 11.2014





List of Workshop Manual Repair Groups

Repair Group

00 - General, Technical Data

30 - Clutch

34 - Controls, Housing

35 - Gears, Shafts

39 - Final Drive, Differential



Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.



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00 – General, Technical Data

1 Transmission Identification

(Edition 11.2014)

⇒ [“1.1 Location on Transmission”, page 1](#)

⇒ [“1.2 Codes, Transmission Allocation and Capacities”, page 2](#)

1.1 Location on Transmission

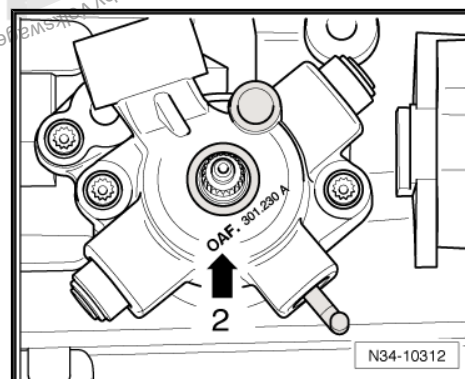
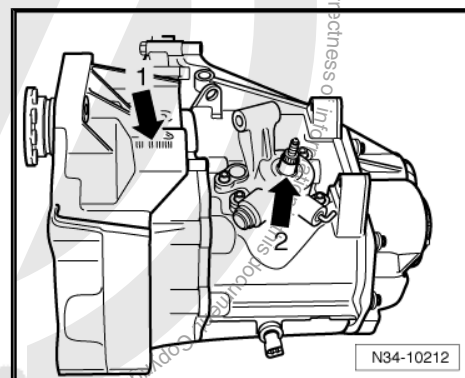


Note

- ◆ *The manual transmission 0AF is a 5-speed transmission and is installed in conjunction with a 4-cylinder engine in the Jetta from MY 2005, Golf Wagon from MY 2007, Golf Wagon from MY 2010 and Jetta from MY 2011.*
- ◆ *Allocation. Refer to*
⇒ [“1.2 Codes, Transmission Allocation and Capacities”, page 2](#).

Codes and the production date -arrow 1-, manual transmission 0AF -arrow 2-

Manual Transmission 0AF -arrow 2-





Transmission Codes and Production Date

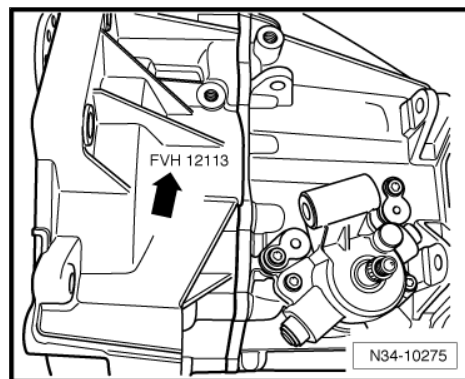
Example:	FVH	12	11	3
	Codes	Day	Month	Year (2003) of manufacture

Additional data and information is provided by the factory.



Note

The transmission code is also listed on the vehicle data label.



1.2 Codes, Transmission Allocation and Capacities

Manual Transmission		5-speed 0AF		
Codes		FVH	JHT	JHU
Manufactured	from through	05/2005	11/2006	03/2009
Allocation	Type	Jetta from MY 2005 Golf Wagon from MY 2007	Jetta from MY 2005 Golf Wagon from MY 2007	Jetta from MY 2005 Golf Wagon from MY 2007 Golf Wagon from MY 2010
	Engine	1.6L - 75 kW	1.6L - 75 kW	1.4L - 59 kW
Ratio Z1 : Z2	Final Drive	68 : 15 = 4.533	68 : 15 = 4.533	68 : 15 = 4.533
Manual Transmission Capacity		Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03
Drive Axle Flange Diameter		100 mm	100 mm	90 mm

Refer to the Parts Catalog for the following information:

- ◆ The individual gear ratios
- ◆ Transmission fluid
- ◆ Clutch allocation

Manual Transmission		5-speed 0AF		
Codes		LEG	LVN	LDZ
Manufactured	from through	06/2009	05/2009	06/2010
Allocation	Type	Jetta from MY 2005 Golf Wagon from MY 2007 Golf Wagon from MY 2010	Jetta from MY 2005 Golf Wagon from MY 2007 Golf Wagon from MY 2010	Jetta from MY 2011
	Engine	1.4L - 59 kW	1.6L - 75 kW	2.0L - 85 kW
Ratio Z1 : Z2	Final Drive	61 : 14 = 4.357	68 : 15 = 4.533	59 : 15 = 3.933
Manual Transmission Capacity		Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03
Drive Axle Flange Diameter		90 mm	100 mm	100 mm

Refer to the Parts Catalog for the following information:



- ◆ The individual gear ratios
- ◆ Transmission fluid
- ◆ Clutch allocation

Manual Transmission		5-speed 0AF	
Codes	NNL		
Manufactured from through	12/2011		
Allocation Type	Jetta from MY 2011		
Engine	1.6L - 77 kW		
Ratio Final Drive Z1 : Z2	61 : 14 = 4.357		
Manual Transmission Capacity	Refer to ⇒ Fluid Capacity Tables; Rep. Gr. 03		
Drive Axle Flange Diameter	100 mm		

Refer to the Parts Catalog for the following information:

- ◆ The individual gear ratios
- ◆ Transmission fluid
- ◆ Clutch allocation

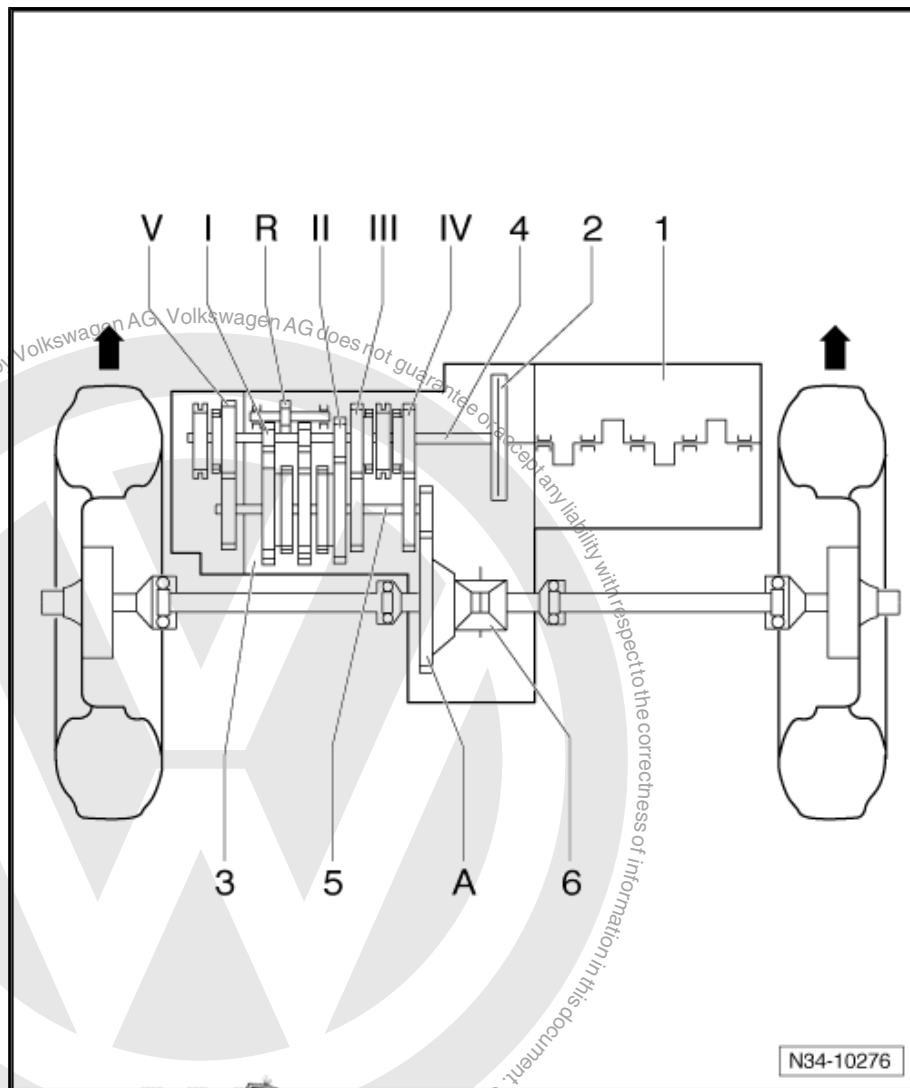


2 Overview - Transmission

Name

-Arrows- point in the direction of travel

- 1 - Engine
- 2 - Clutch
- 3 - Manual Transmission
- 4 - Input Shaft
- 5 - Output Shaft
- 6 - Differential

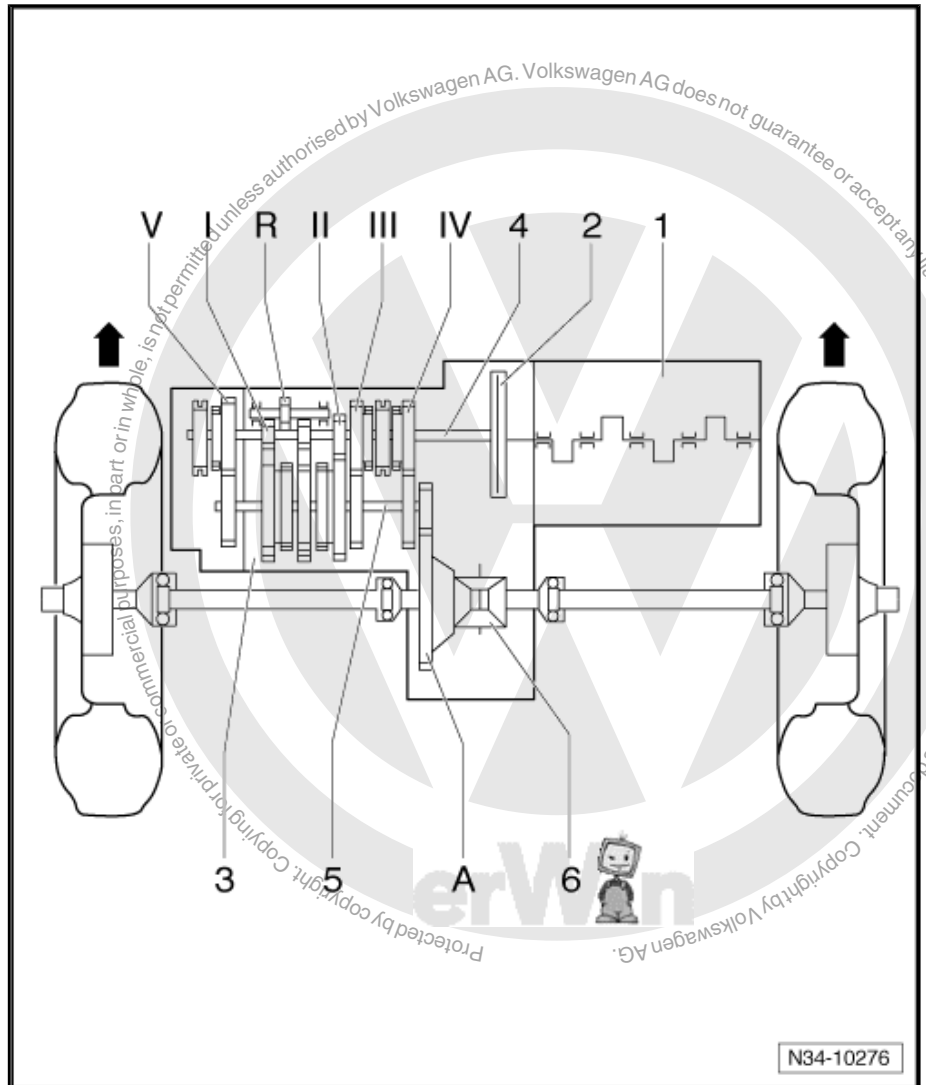


Ratio

-Arrows- point in the direction of travel



- I - 1st Gear
- II - 2nd Gear
- III - 3rd Gear
- IV - 4th Gear
- V - 5th Gear
- R - Reverse Gear
- A - Final Drive





3 Transmission Ratio "i", Calculating

Example:

	5th Gear	Final Drive
Drive gear	$ZG_1 = 37$	$ZA_1 = 14$
Driven gear	$ZG_2 = 50$	$ZG_2 = 69$

$i = Z_2 : Z_1$. Refer to ¹⁾

$i_G = \text{gear ratio} = ZG_2 : ZG_1 = 37 : 50 = 0.740$

$i_A = \text{axle ratio} = ZA_2 : ZA_1 = 69 : 14 = 4.929$

$i_{\text{total}} = \text{total ratio} = i_G \times i_A = 0.740 \times 4.929 = 3.647$

1) Z_1 = Number of teeth on the drive gear, Z_2 = Number of teeth on the driven gear



4 General Repair Information

⇒ [“4.1 General Information”, page 7](#)

⇒ [“4.2 Components”, page 7](#)

4.1 General Information

The highest level of care and cleanliness along with tools that function properly are required to ensure a proper and successful transmission repair. Of course the general safety precautions also apply when carrying out repair work.

A list of general instructions that apply to multiple repair procedures throughout the repair manual are summarized once here under the “Components” section. Refer to

⇒ [“4.2 Components”, page 7](#) . They apply to this repair manual.

4.2 Components

⇒ [“4.2.1 Transmission”, page 7](#)

⇒ [“4.2.2 O-Rings, Gaskets, Seals and Sealant”, page 8](#)

⇒ [“4.2.3 Circlips”, page 8](#)

⇒ [“4.2.4 Bolts and Nuts”, page 9](#)

⇒ [“4.2.5 Bearings”, page 9](#)

⇒ [“4.2.6 Shims”, page 9](#)

⇒ [“4.2.7 Synchronizer Rings”, page 10](#)

⇒ [“4.2.8 Gear Wheels, Synchronizer Hubs and Needle Bearing Sleeve”, page 10](#)

⇒ [“4.2.9 Selector Gears”, page 10](#)

⇒ [“4.2.10 Clutch”, page 10](#)

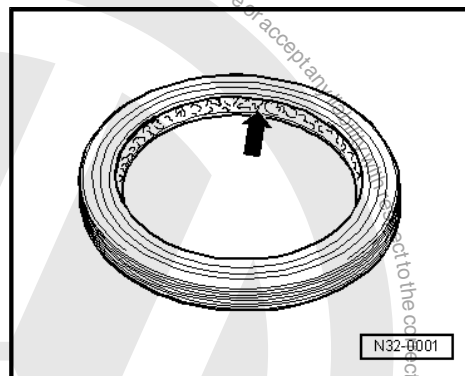
4.2.1 Transmission

- ◆ Make sure that the alignment bushings between the engine and transmission are positioned correctly when installing the manual transmission.
- ◆ Clean the contact surfaces when installing brackets and waxed components. Contact surfaces must be free of wax and grease.
- ◆ Allocate the bolts and other components. Refer to the Parts Catalog.
- ◆ Check the transmission fluid level after installation. Refer to ⇒ [“5 Transmission Fluid, Checking”, page 111](#) .
- ◆ Capacities. Refer to ⇒ [“1.2 Codes, Transmission Allocation and Capacities”, page 2](#) .



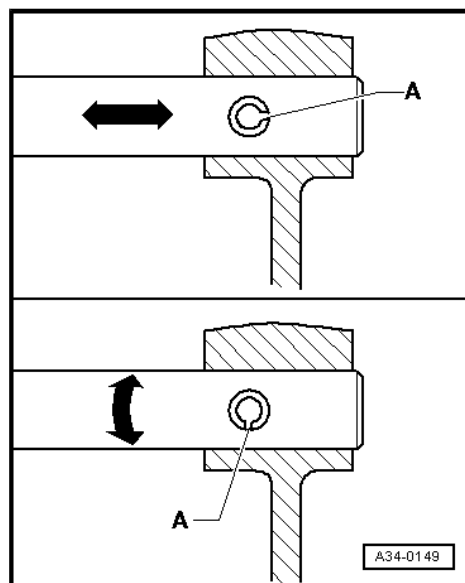
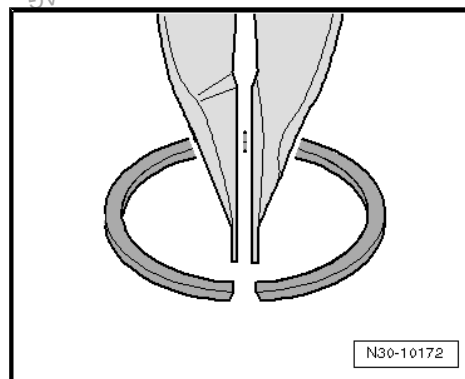
4.2.2 O-Rings, Gaskets, Seals and Sealant

- ◆ Always thoroughly clean the separating surfaces on the housing before applying the sealant.
- ◆ Apply the Sealant - AMV 188 200 03- evenly and not too thick.
- ◆ Replace the O-rings, seals and gaskets.
- ◆ Flange shafts, input shaft and selector shaft seals are also called shaft seals.
- ◆ After removing seals and gaskets, check the contact surfaces on the housings or shafts for burrs and damage caused by the removal. Repair as necessary.
- ◆ Before installing the shaft seals, lightly oil the outer circumference and fill the space between the sealing lips -arrow- halfway with Grease - G 052 128 A1- .
- ◆ The open side of the gaskets point toward the fluid to be sealed in.
- ◆ When installing the new shaft seal, make sure the sealing lip does not run on the same point as the sealing lip from the old seal (use offset tolerance).
- ◆ Lightly lubricate the O-rings before inserting to prevent the rings from being crushed during assembly.
- ◆ After replacing the seals and gaskets, check the transmission fluid level and fill if necessary. Refer to ["5 Transmission Fluid, Checking", page 111](#).



4.2.3 Circlips

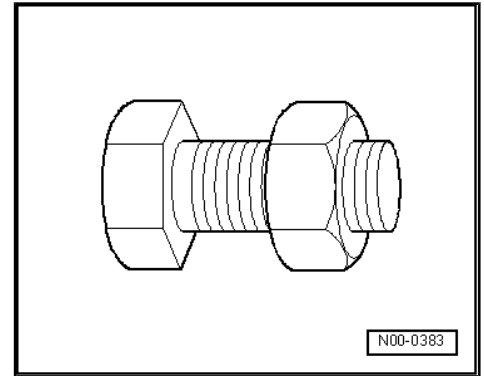
- ◆ Do not stretch the circlips.
- ◆ Installation position for some of the circlips: the circlip is »narrower at the top« and so is its installation position. This makes it easier for the pliers to grab the circlip when removing and installing it.
- ◆ Always replace damaged or stretched circlips.
- ◆ The circlips must rest at the bottom of the groove.
- ◆ Replace the adapter sleeves. Installation position: the slot -A- should align with the line of force -arrow-.





4.2.4 Bolts and Nuts

- ◆ Loosen the bolts and nuts opposite the tightening sequence.
- ◆ Nuts and bolts which secure covers and housings should be loosened and tightened diagonally and in steps if no tightening sequence is specified.
- ◆ Especially delicate components, such as clutch pressure plates, must not be distorted. Loosen and tighten bolts and nuts in stages in a diagonal sequence.
- ◆ The tightening specifications given apply to uncoiled bolts and nuts.
- ◆ Always replace self-locking bolts and nuts.
- ◆ Make sure the contact surfaces and visible surfaces on the nuts and bolts are waxed after assembling.
- ◆ Use a wire brush to clean the threads of the bolts that were installed with locking fluid. Then insert the bolts with Locking Fluid - AMV 185 101 A1- .
- ◆ Clean the threaded holes for the self-locking bolts or for the bolts coated with locking fluid (for example with a thread tap). Otherwise there is the risk that the bolts could break off the next time they are removed.
- ◆ Please make sure that the thread pitch is correct so that the proper thread tap is used during cleaning, and the thread does not get damaged.

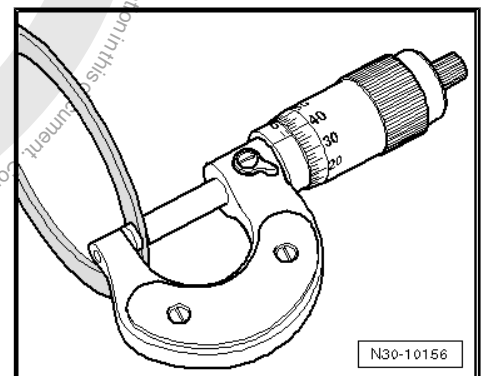


4.2.5 Bearings

- ◆ Install needle bearings with the lettered side (thicker metal) facing the fitting tool.
- ◆ Insert all the bearings in transmission with transmission fluid.
- ◆ Replace all the tapered roller bearings that are on the same shaft, and use tapered roller bearings from the same manufacturer.
- ◆ To install, heat the bearing inner races to approximately 100° C with Inductive Heater - VAS6414- .
- ◆ Do not interchange inner and outer bearing races with bearings of the same size; the bearings are paired.

4.2.6 Shims

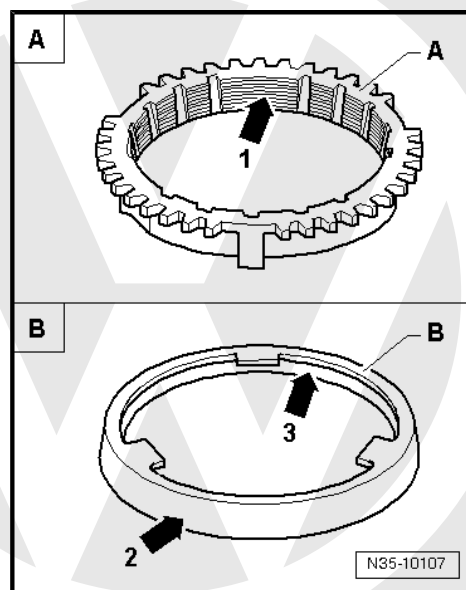
- ◆ Measure the shims at several locations with a micrometer caliper. Tolerance variations make it possible to find the exact shim thickness required.
- ◆ Check for burrs or damage.
- ◆ Only install flawless shims.





4.2.7 Synchronizer Rings

- ◆ Do not interchange them. When reusing synchronizer rings, always install on the same gear wheel.
- ◆ Check for wear and replace if necessary.
- ◆ Check the grooves -arrow 1- on the synchronizer ring -A- and the inner race for flat areas (grooves are worn).
- ◆ The coating on the synchronizer rings must not be damaged.
- ◆ If an intermediate ring -B- is installed, check the outer friction surface -arrow 2- and the inner friction surface -arrow 3- for »grooves« and »scoring«.
- ◆ Check taper of drive gear for »grooves« and »scoring«.
- ◆ Coat the synchronizing with transmission fluid and then install.



4.2.8 Gear Wheels, Synchronizer Hubs and Needle Bearing Sleeve

- ◆ Warm the needle bearing sleeves to approximately 100 °C with an Inductive Heater - VAS6414- .
- ◆ Heat the synchronizer hub to approximately 100 °C with the Inductive Heat Unit - VAS6414- before installing. Press on as far as the stop when installing so there is no axial play.
- ◆ Heat the gears to approximately 100 °C with the Inductive Heat Unit - VAS6414- before installing. Press on as far as the stop when installing so there is no axial play.
- ◆ Pay attention to the installed location.

4.2.9 Selector Gears

- ◆ After installing, check 1st through 5th gear for minimal amount of axial clearance and for ease of movement.

4.2.10 Clutch

- ◆ When removing transmission, remove the clutch slave cylinder without opening the lines.
- ◆ If the clutch slave cylinder is removed with the hydraulic line attached, do not depress clutch pedal. Otherwise the piston will be pressed out of the clutch slave cylinder.
- ◆ Do not tilt the clutch pressure plate. Loosen and tighten it diagonally and in small steps.
- ◆ To reduce odor caused by a burnt clutch, thoroughly clean the clutch housing and the flywheel running surface with a clean cloth.



30 – Clutch

1 Transmission, Troubleshooting

- Refer to ⇒ Rep. Gr. 30 and ⇒ Rep. Gr. 34 .





2 Clutch Mechanism, Servicing

⇒ [“2.1 Overview - Clutch”, page 12](#)

⇒ [“2.2 Overview - Pedal Cluster”, page 14](#)

⇒ [“2.3 Over-Center Spring, Removing and Installing”, page 15](#)

⇒ [“2.4 Clutch Pedal, Removing and Installing”, page 21](#)

⇒ [“2.5 Mounting Bracket, Removing and Installing”, page 26](#)

⇒ [“2.6 Clutch Master Cylinder, Removing and Installing”,
page 31](#)

⇒ [“2.7 Clutch Position Sensor G476 , Removing and Installing”,
page 33](#)

⇒ [“2.8 Overview - Hydraulics ”, page 35](#)

⇒ [“2.10 Clutch Slave Cylinder, Removing and Installing”,
page 39](#)

2.1 Overview - Clutch



Note

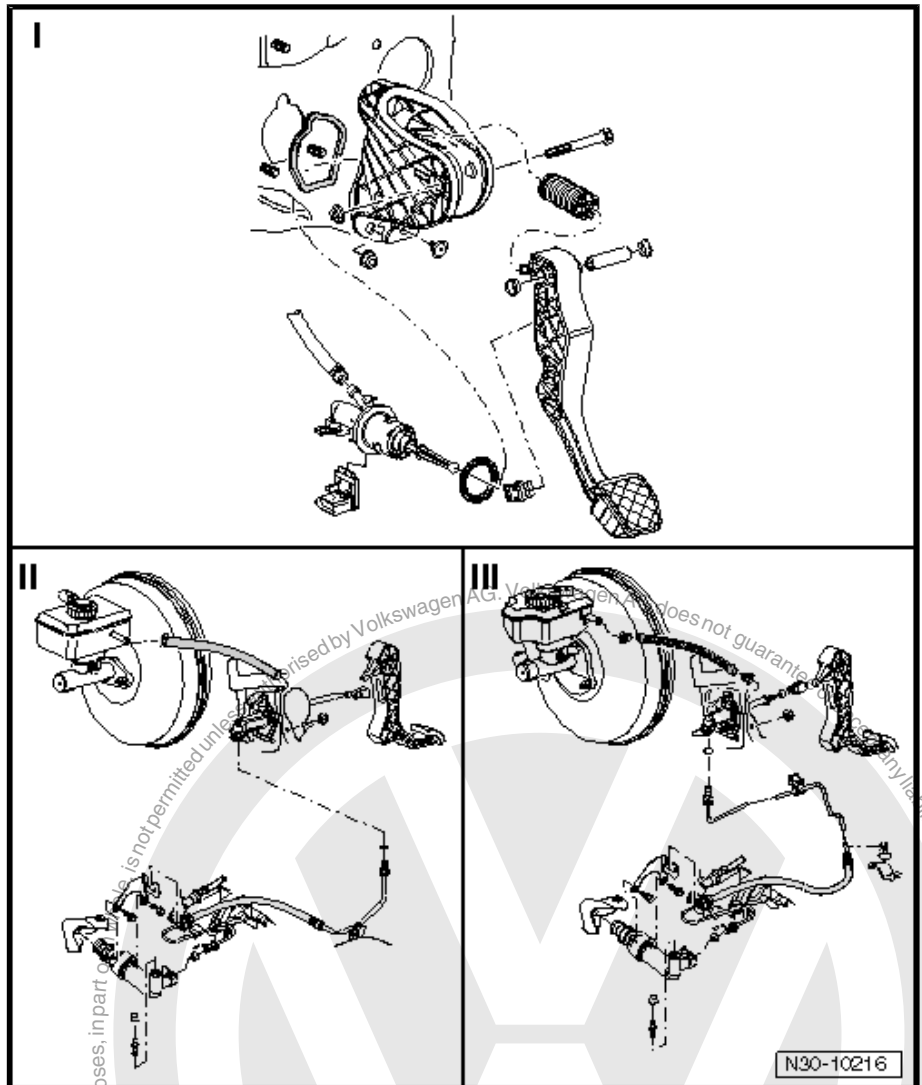
- ◆ *Get the anti-theft code for the radio before disconnecting the battery.*
- ◆ *Disconnect the battery ground cable. Refer to ⇒ [Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting](#) .*
- ◆ *Connect battery and follow the procedures to be performed after connecting a battery. Refer to ⇒ [Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting](#) .*
- ◆ *Lubricate all bearing areas and contact surfaces. Refer to the Parts Catalog for the grease allocation.*



I - Overview Pedal Cluster. Refer to
⇒ [“2.2 Overview - Pedal Cluster”](#), page 14 .

II - Overview Hydraulics, LHD. Refer to
⇒ [“2.8 Overview - Hydraulics”](#), page 35 .

III - NOT for North American Market



2.2 Overview - Pedal Cluster

1 - Bulkhead

- ☐ With a mount for the mounting bracket

2 - Seal

- ☐ Replace after removing
- ☐ Between the mounting bracket and bulkhead
- ☐ Self-adhesive
- ☐ Attached to the mounting bracket

3 - Mounting Bracket

- ☐ For the clutch pedal mount
- ☐ some versions have a damper. Refer to [⇒ Fig. "Mounting Bracket with Damper -arrow- ", page 15](#)
- ☐ Removing and installing. Refer to [⇒ "2.5 Mounting Bracket, Removing and Installing", page 26](#) .

4 - Bolt

5 - Over-Center Spring

- ☐ Removing and installing. Refer to [⇒ "2.3 Over-Center Spring, Removing and Installing", page 15](#) .

6 - Bearing Bushing

7 - Mounting Pin

8 - Clutch Pedal

- ☐ Removing and installing. Refer to [⇒ "2.4 Clutch Pedal, Removing and Installing", page 21](#) .

9 - Support

- ☐ To remove and install, disconnect the clutch master cylinder from the clutch pedal. Refer to [⇒ "2.4 Clutch Pedal, Removing and Installing", page 21](#) .

10 - Seal

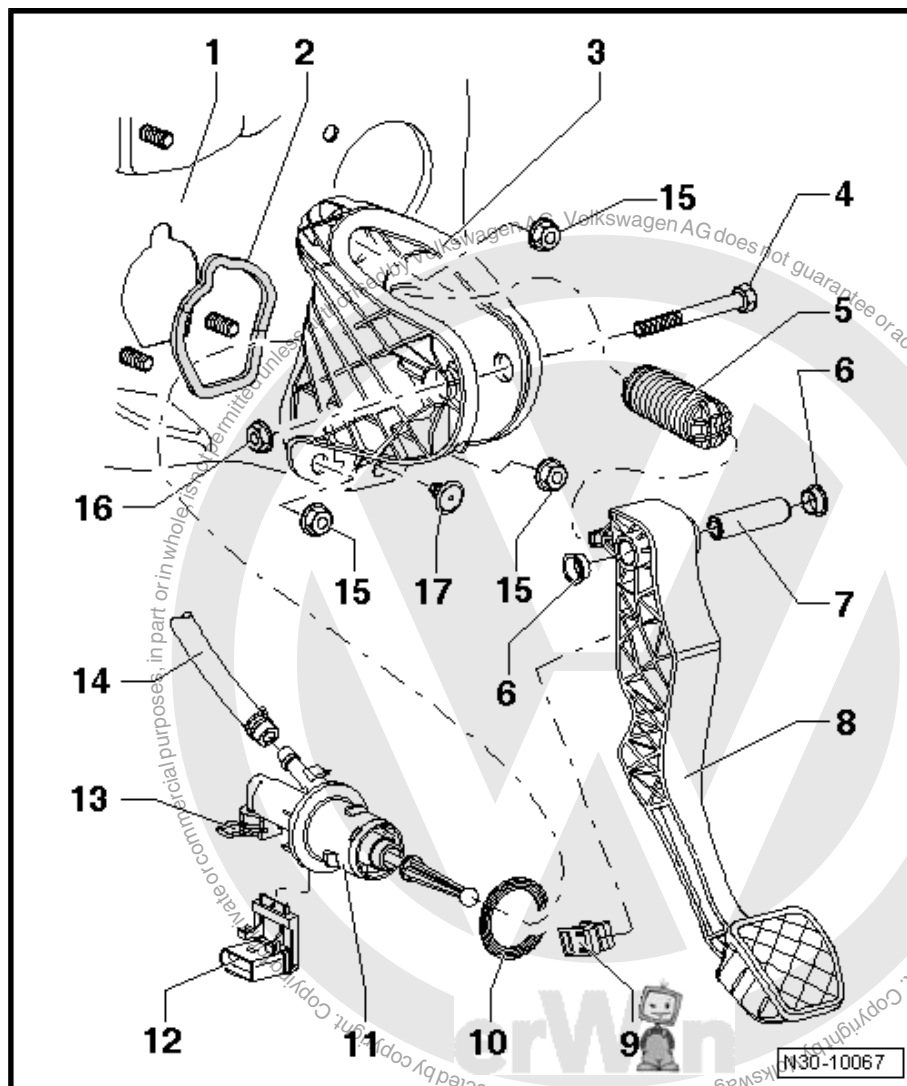
- ☐ Replace after removing
- ☐ Between the clutch master cylinder and the mounting bracket

11 - Clutch Master Cylinder

- ☐ Removing and installing after removing the mounting bracket. Refer to [⇒ "2.6 Clutch Master Cylinder, Removing and Installing", page 31](#)

12 - Clutch Position Sensor - G476-

- ☐ Removing and installing. Refer to [⇒ "2.7 Clutch Position Sensor G476 , Removing and Installing", page 33](#) .
- ☐ Can be checked in "Guided Fault Finding" using the Vehicle Diagnostic Tester
- ☐ The Clutch Position Sensor - G476- is called the Clutch Pedal Switch - F36- in "Guided Fault Finding".





13 - Clamp

- ☐ The clamp must be removed in order to remove/install the hose/line assembly

14 - Hose

- ☐ Made of plastic. Refer to ⇒ [Fig. "Plastic hose -1- ", page 37](#)

15 - Hex Nut

- ☐ 25 Nm
- ☐ Self-locking
- ☐ Quantity: 3
- ☐ For the mounting bracket to the bulkhead
- ☐ Replace after removing

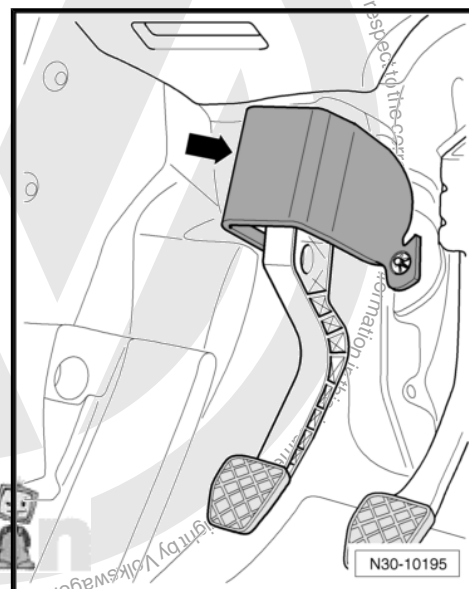
16 - Hex Nut

- ☐ 25 Nm
- ☐ Replace after removing

17 - Stop

- ☐ For the clutch pedal

Mounting Bracket with Damper -arrow-



2.3 Over-Center Spring, Removing and Installing

⇒ ["2.3.1 Removing", page 15](#)

⇒ ["2.3.2 Installing", page 18](#)

⇒ ["2.3.3 Tightening Specifications", page 20](#)

2.3.1 Removing

Special tools and workshop equipment required

- ◆ Over-Center Spring Assembly Tool - T10178-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



Vehicles with Knee Airbag



Note

The knee airbag is installed above the foot pedal assembly.

- Determine whether a coded radio is installed. If so, obtain the anti-theft code.

Disconnect the battery ground cable. Refer to ➔ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

Continuation for All

- Move the driver seat all the way back and raise the steering wheel to the highest position.
- Remove the trim and the cover under the trim on the driver side. Refer to ➔ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Steering Column Trim Panel, Removing and Installing .

Vehicles with Knee Airbag

- Remove the knee airbag bracket and the crash bolster. Refer to ➔ Body Interior; Rep. Gr. 69 .

Continuation for All

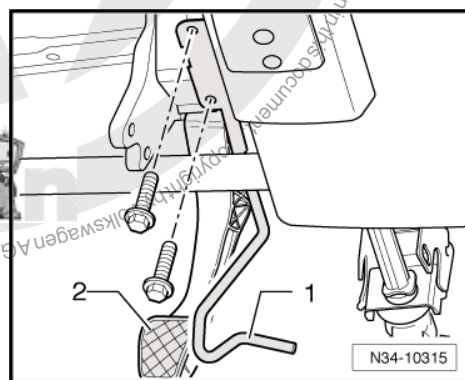
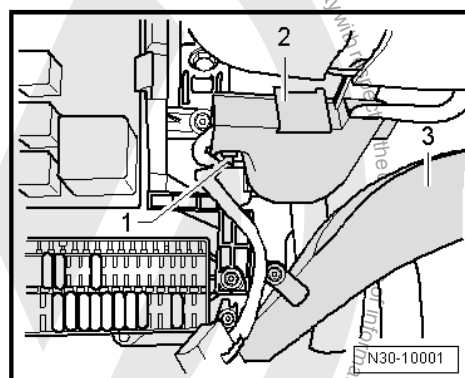
- Remove the cable guide -2- from the steering column.
- Remove the footwell vents -3-. Refer to ➔ Heating, Ventilation and Air Conditioning; Rep. Gr. 80 ; Heating, Servicing; Vents, Removing, Jetta from MY 2011 .

Vehicles without Knee Airbag

There are different ways of securing the impact bolster -1- in front of the clutch pedal -2-. The crash bolster may look different than what is shown in the following illustrations.

Securing with two bolts

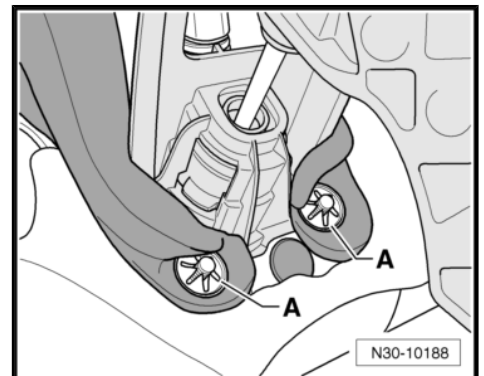
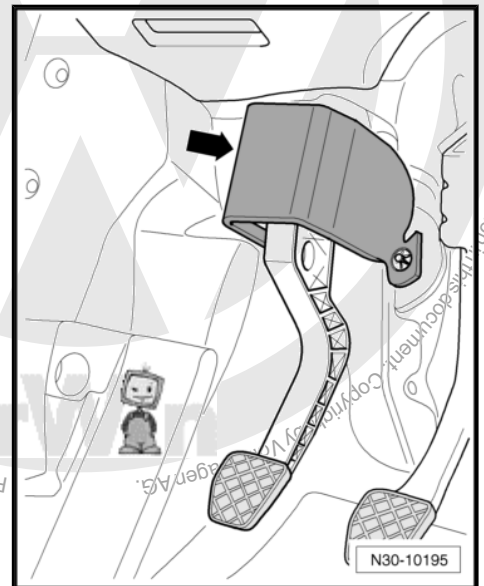
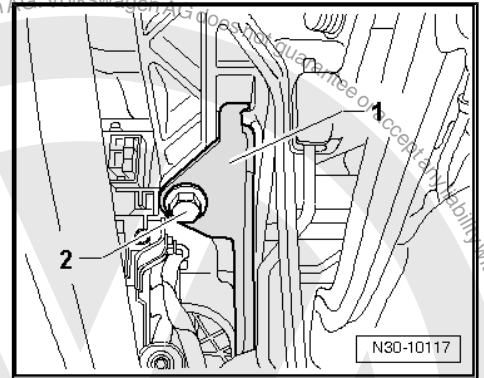
- Remove the crash bolster -1- (2 bolts).





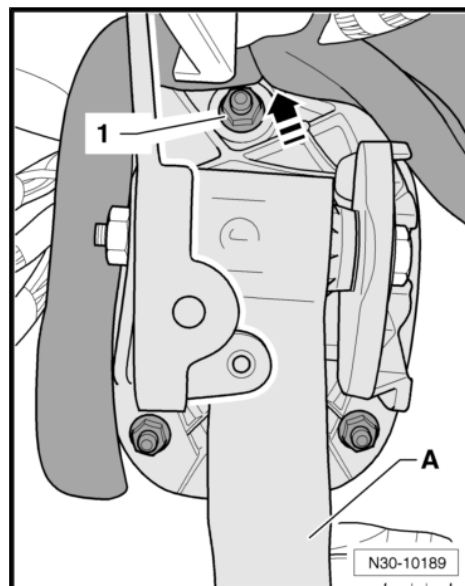
Securing with one bolt

- Remove the crash bolster -1- (1 bolt -2-).
- Remove the damper -arrow- at the bottom of the mounting bracket/clutch pedal, if equipped.
- Remove the washers -A- for the damper.
- Remove the damper.





- Push the damper near the upper nut -1- above the clutch pedal -A- upward in the direction of the -arrow-.



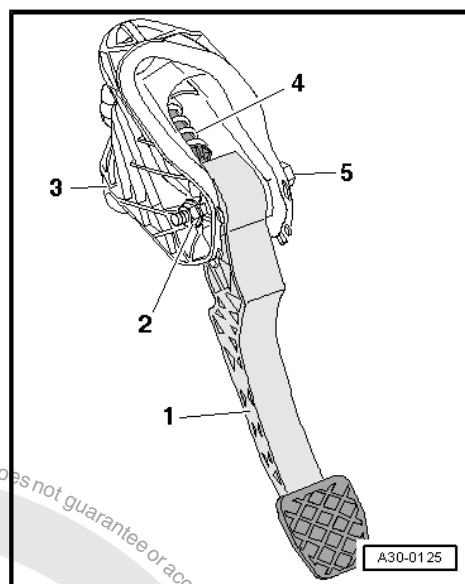
- Remove the nut -2- and the bolt -5- and then remove the clutch pedal -1- from the mounting bracket -3-.



Note

The clutch pedal remains engaged in the clutch master cylinder actuator rod.

- Swivel the clutch pedal slightly downward and remove the over-center spring -4- from the mounting bracket.



2.3.2 Installing

Install in reverse order of removal while. Note the following:

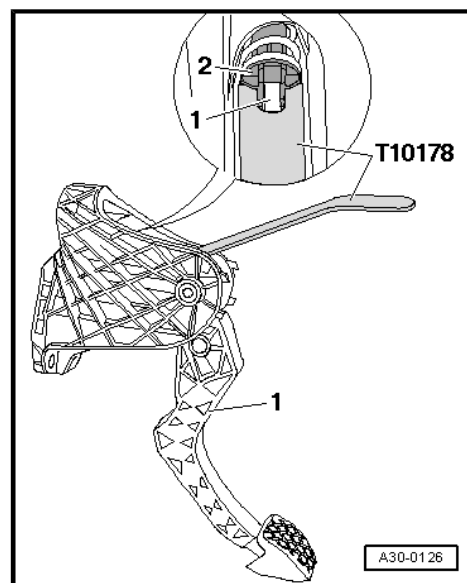


Note

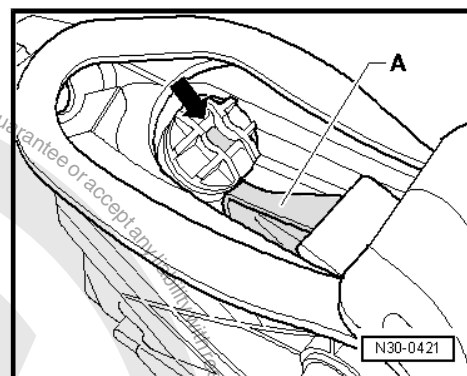
Replace the self-locking nuts.



- Install the over-center spring -2- in the mounting bracket from the top. Hold the end of the spring in its installed position with Over-Center Spring Assembly Tool - T10178- when installing the spring.



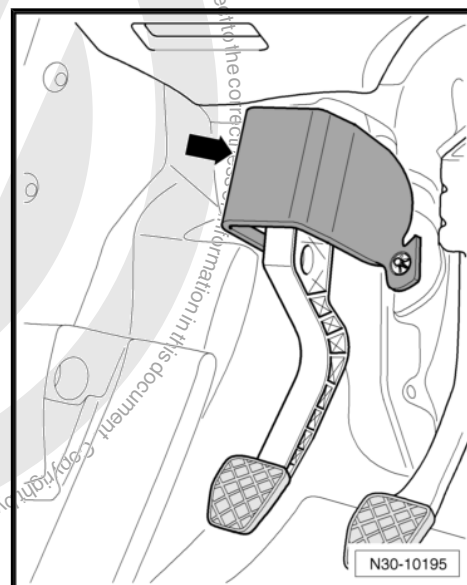
- The mounting area -arrow- for the clutch pedal pivot pin -A- must be positioned vertically.
- Insert the clutch pedal pivot pin into the mounting cup of the over-center spring.
- Press the clutch pedal slightly, push the bolt through and tighten the self-locking nut to the tightening specification. Refer to [⇒ "2.3.3 Tightening Specifications", page 20](#).



Some vehicles have a damper -arrow- on the mounting bracket/ clutch pedal.

- Bring it back into its installed position.

Vehicles without Knee Airbag

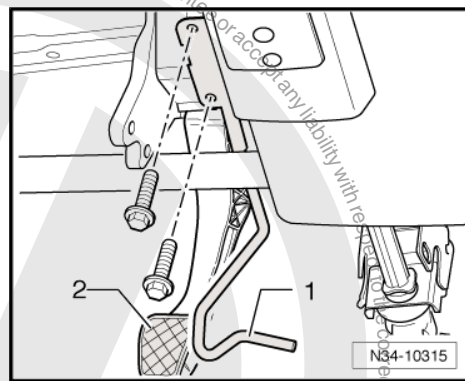




There are different ways of securing the impact bolster -1- in front of the clutch pedal -2-.

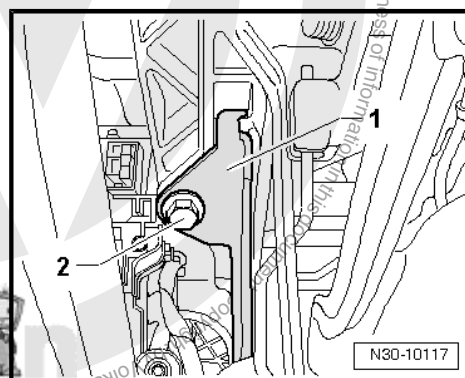
Securing with two bolts

- Install the crash bolster -1- and tighten the 2 bolts to the tightening specification. Refer to [⇒ “2.3.3 Tightening Specifications”, page 20](#) .



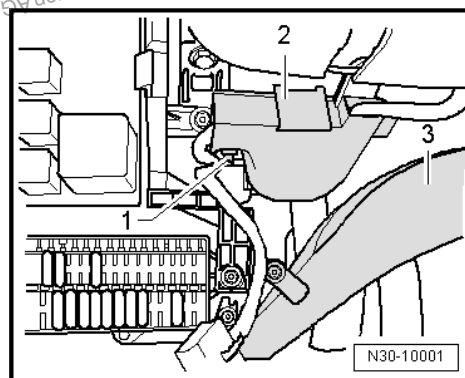
Securing with one bolt

- Install the crash bolster -1- and tighten the bolt -2- to the tightening specification. Refer to [⇒ “2.3.3 Tightening Specifications”, page 20](#) .



Continuation for All

- Attach the cable guide -2- to the steering column.
- Install the footwell vents -3-. Refer to ⇒ Heating, Ventilation and Air Conditioning; Rep. Gr. 80 ; Heating, Servicing; Vents, Removing, Jetta from MY 2011 .



Vehicles with Knee Airbag

- Install the knee airbag bracket and the crash bolster. Refer to ⇒ Body Interior; Rep. Gr. 69 .

Continuation for All

- Install the trim and the cover under the trim on the driver side. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Steering Column Trim Panel, Removing and Installing .
- If disconnected, connect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

2.3.3 Tightening Specifications

Component	Nm
Clutch pedal to mounting bracket ♦ Replace the self-locking nuts.	25
Impact bolster to mounting bracket/steering column (secured with two bolts)	10
Impact bolster to mounting bracket/steering column (secured with one bolt)	20
♦ Replace the impact bolster bolts	



2.4 Clutch Pedal, Removing and Installing

⇒ [“2.4.1 Removing”, page 21](#)

⇒ [“2.4.2 Installing”, page 23](#)

⇒ [“2.4.3 Tightening Specifications”, page 26](#)

2.4.1 Removing

Special tools and workshop equipment required

- ◆ Clutch Pedal Pliers - T10005-
- ◆ Over-Center Spring Assembly Tool - T10178-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Vehicles with Knee Airbag



Note

The knee airbag is installed above the foot pedal assembly.

- Determine whether a coded radio is installed. If so, obtain the anti-theft code.

Disconnect the battery ground cable. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

Continuation for All

- Move the driver seat all the way back and raise the steering wheel to the highest position.
- Remove the trim and the cover under the trim on the driver side. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Steering Column Trim Panel, Removing and Installing .

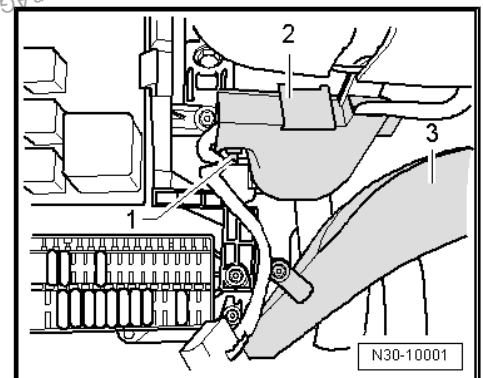
Vehicles with Knee Airbag

- Remove the knee airbag bracket and the crash bolster. Refer to ⇒ Body Interior; Rep. Gr. 69 .

Continuation for All

- Remove the cable guide -2- from the steering column.
- Remove the footwell vents -3-. Refer to ⇒ Heating, Ventilation and Air Conditioning; Rep. Gr. 80 ; Heating, Servicing; Vents, Removing, Jetta from MY 2011 .

Vehicles without Knee Airbag

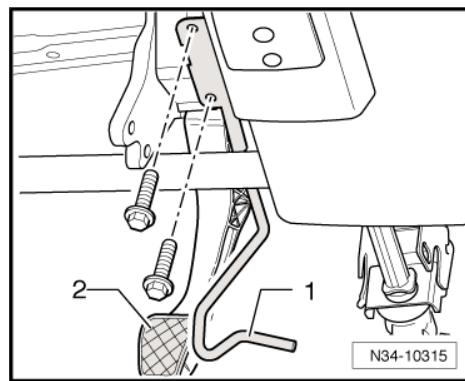




There are different ways of securing the impact bolster -1- in front of the clutch pedal -2-. The crash bolster may look different than what is shown in the following illustrations.

Securing with two bolts

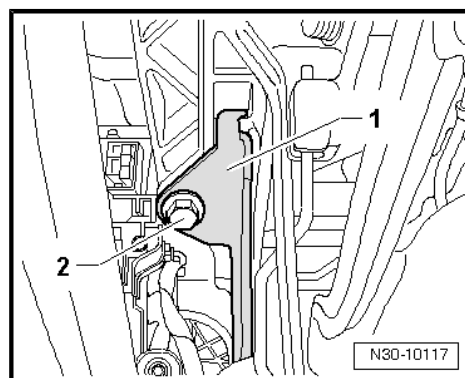
- Remove the crash bolster -1- (2 bolts).



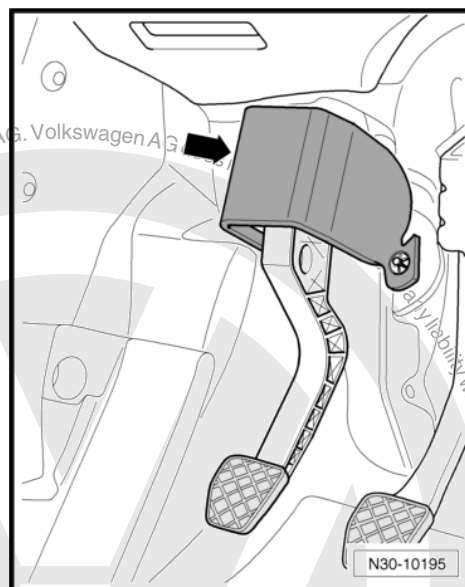
Securing with one bolt

- Remove the crash bolster -1- (1 bolt -2-).

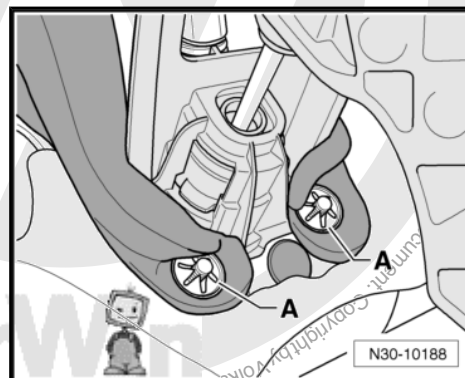
Continuation for All



- Remove the damper -arrow- at the bottom of the mounting bracket/clutch pedal, if equipped.

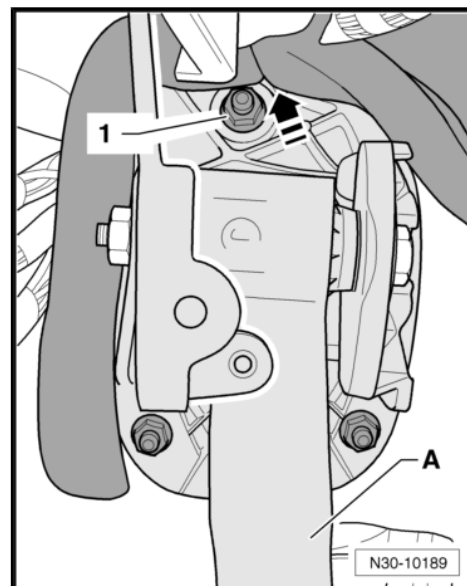


- Remove the washers -A- for the damper.
- Remove the damper.

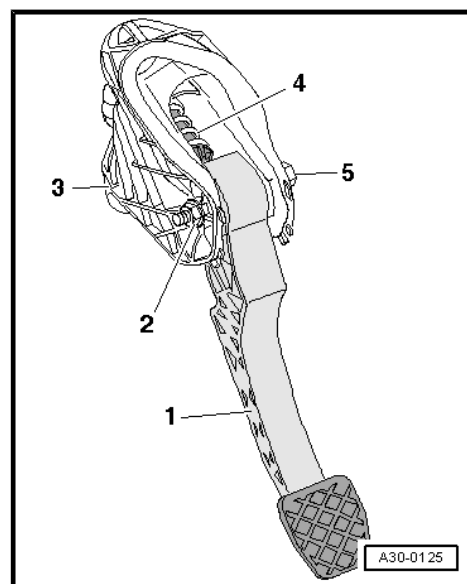




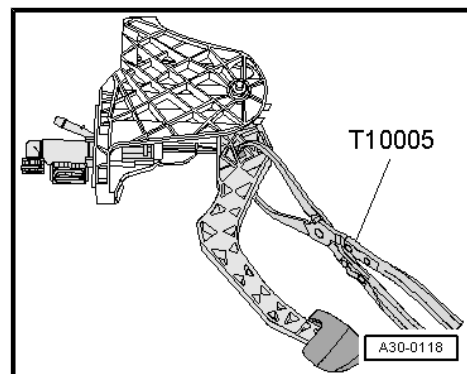
- Push the damper near the upper nut -1- above the clutch pedal
-A- upward in the direction of the -arrow-.



- Remove the nut -2- and bolt -5- and then remove the clutch pedal -1- from the mounting bracket -3-.
- Swivel the clutch pedal slightly downward and remove the over-center spring -4- from the mounting bracket.



- Release the clutch pedal from clutch master cylinder using the Clutch Pedal Pliers - T10005- .
- Remove the clutch pedal.



2.4.2 Installing

Install in reverse order of removal while. Note the following:

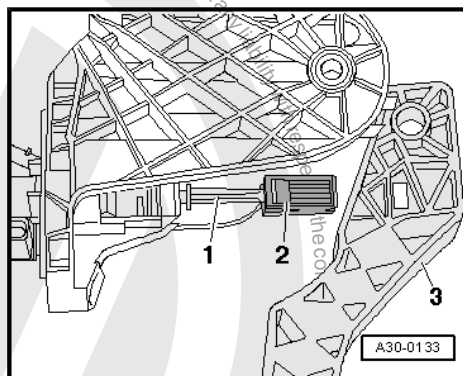


Note

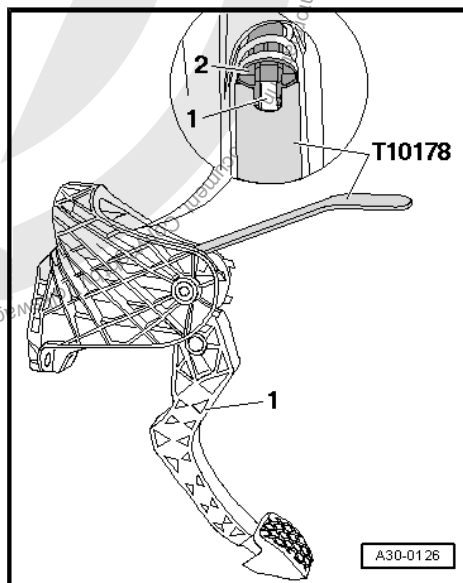
Replace the self-locking nuts.



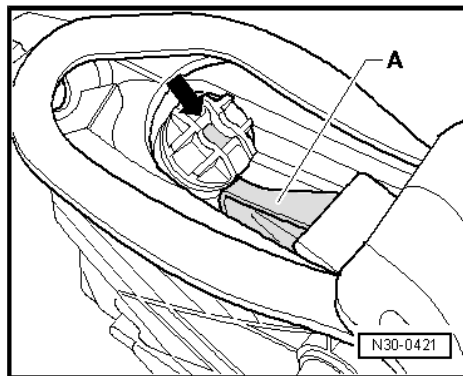
- Attach the mount -2- to the clutch master cylinder actuator rod -1-.
- Press the mounting in until it engages audibly in the clutch pedal -3- opening.



- Install the over-center spring -2- in the mounting bracket from the top. Hold the end of the spring in its installed position with Over-Center Spring Assembly Tool - T10178- when installing the spring.



- The mounting area -arrow- for the clutch pedal pivot pin -A- must be positioned vertically.
- Insert the clutch pedal pivot pin -A- into the mounting cup of the over-center spring.
- Press the clutch pedal slightly, push the bolt through and tighten the self-locking nut to the tightening specification. Refer to [⇒ "2.4.3 Tightening Specifications", page 26](#) .

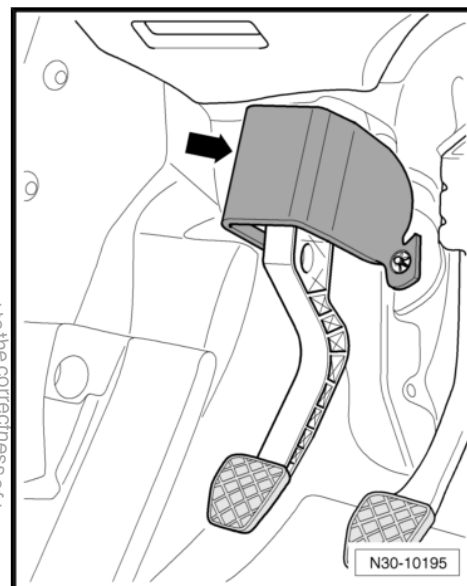




Some vehicles have a damper -arrow- on the mounting bracket/ clutch pedal.

- Bring it back into its installed position.

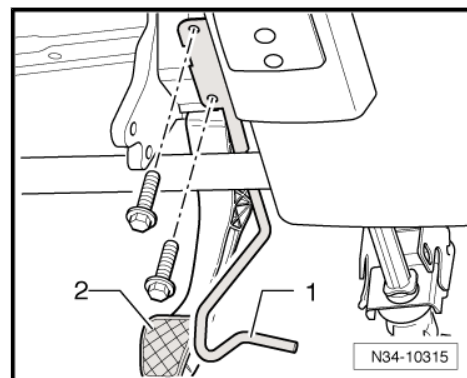
Vehicles without Knee Airbag



There are different ways of securing the impact bolster -1- in front of the clutch pedal -2-.

Securing with two bolts

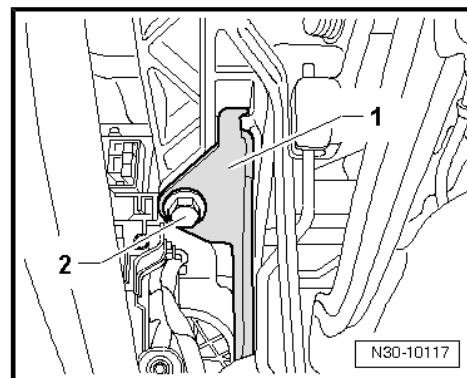
- Install the crash bolster -1- and tighten the 2 bolts to the tightening specification. Refer to ["2.4.3 Tightening Specifications", page 26](#)



Securing with one bolt

- Install the crash bolster -1- and tighten the bolt -2- to the tightening specification. Refer to ["2.4.3 Tightening Specifications", page 26](#) .

Continuation for All





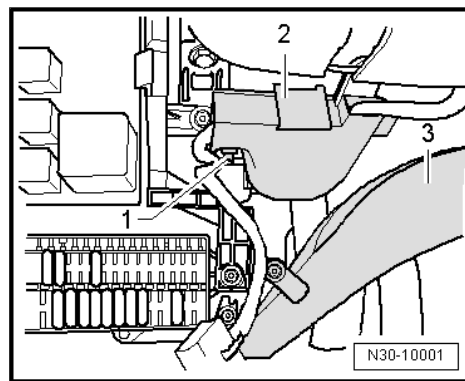
- Attach the cable guide -2- to the steering column.
- Install the footwell vents -3-. Refer to ➤ Heating, Ventilation and Air Conditioning; Rep. Gr. 80 ; Heating, Servicing; Vents, Removing, Jetta from MY 2011 .

Vehicles with Knee Airbag

- Install the knee airbag bracket and the crash bolster. Refer to ➤ Body Interior; Rep. Gr. 69 .

Continuation for All

- Install the trim and the cover under the trim on the driver side. Refer to ➤ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Steering Column Trim Panel, Removing and Installing
- If disconnected, connect the battery. Refer to ➤ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .



2.4.3 Tightening Specifications

Component	Nm
Clutch pedal to mounting bracket ◆ Replace the self-locking nuts.	25
Impact bolster to mounting bracket/steering column (secured with two bolts)	10
Impact bolster to mounting bracket/steering column (secured with one bolt)	20
◆ Replace the impact bolster bolts	

2.5 Mounting Bracket, Removing and Installing

⇒ ["2.5.1 Removing", page 26](#)

⇒ ["2.5.2 Installing", page 29](#)

⇒ ["2.5.3 Tightening Specifications", page 31](#)

2.5.1 Removing

Special tools and workshop equipment required

- ◆ Hose Clamps - Up To 25 mm - 3094-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Hose Clip Pliers - VAS6362-
- ◆ Sealing Tool - T10249-
- Determine whether a coded radio is installed. If so, obtain the anti-theft code.

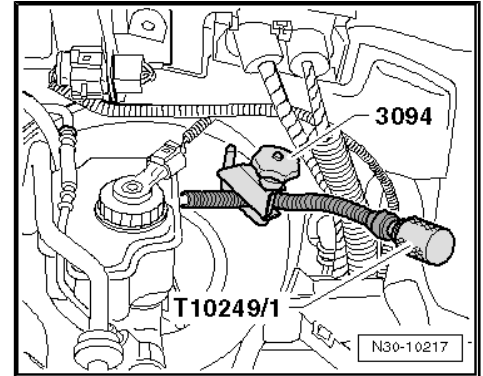
Disconnect the battery ground cable. Refer to ➤ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

- Remove the entire air filter housing if it is located near the battery. Refer to ➤ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the battery and the battery tray. Refer to ➤ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .

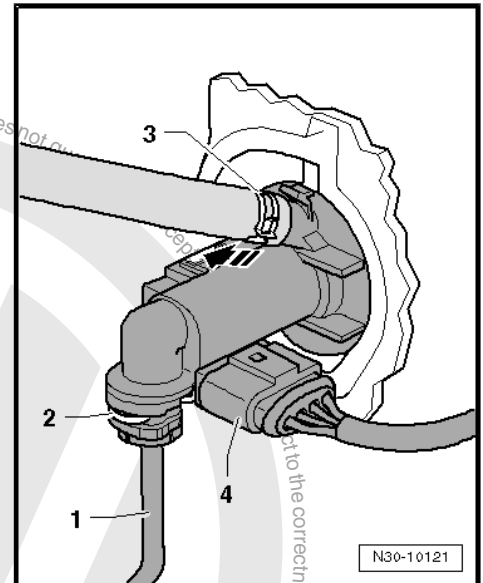


Note

- ◆ *Be careful not to get any brake fluid on the longitudinal member or on the transmission when performing the following work. If it does, clean the areas thoroughly.*
- ◆ *Place a lint-free cloth under the clutch master cylinder.*
- Clamp the supply hose to the clutch master cylinder using Hose Clamps - Up To 25mm - 3094- .
- Seal the return hose with the Sealing Tool - T10249/1- .



- Pull out the clip -2- using a screwdriver or a pointed tool and then pull the hose/line assembly or plastic hose -1- out of the master cylinder.
- Unclip the Clutch Position Sensor - G476- from the clutch master cylinder -arrow- and remove it with the connector -4- still connected.



Note

When working inside the footwell, cover the carpet with cloths to protect it from leaking brake fluid.

- Remove the trim and the cover under the trim on the driver side. Refer to ➤ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Steering Column Trim Panel, Removing and Installing .

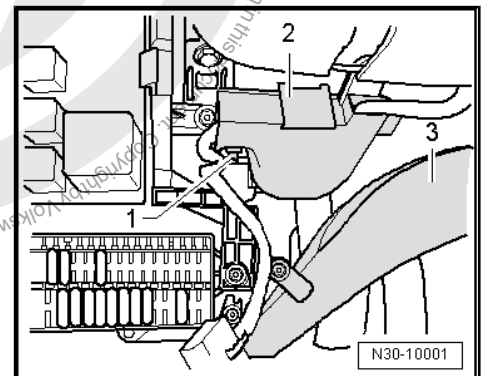
Vehicles with Knee Airbag



Note

The knee airbag is installed above the foot pedal assembly.

- Remove the knee airbag bracket and the crash bolster. Refer to ➤ Body Interior; Rep. Gr. 69 .
- Remove the cable guide -2- from the steering column.
- Remove the footwell vents -3-. Refer to ➤ Heating, Ventilation and Air Conditioning; Rep. Gr. 80 ; Heating, Servicing; Vents, Removing, Jetta from MY 2011 .



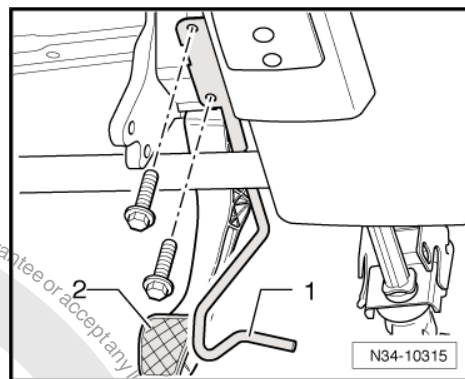
Vehicles without Knee Airbag



There are different ways of securing the impact bolster -1- in front of the clutch pedal -2-. The crash bolster may look different than what is shown in the following illustrations.

Securing with two bolts

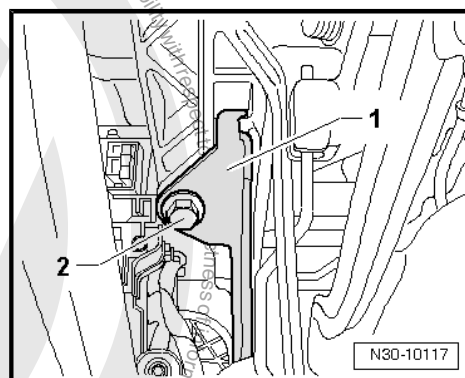
- Remove the crash bolster (2 bolts).



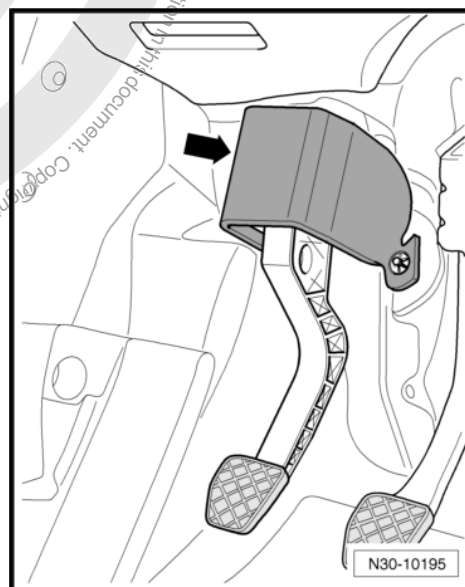
Securing with one bolt

- Remove the crash bolster -1- (1 bolt -2-).

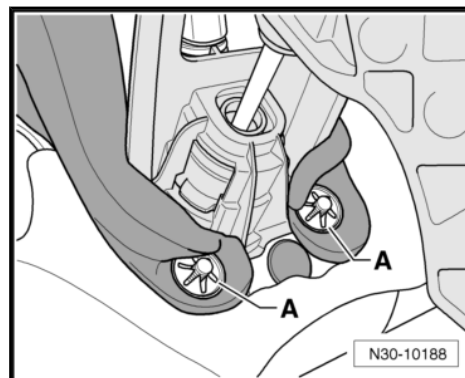
Continuation for All



- Remove the damper -arrow- at the bottom of the mounting bracket/clutch pedal, if equipped.

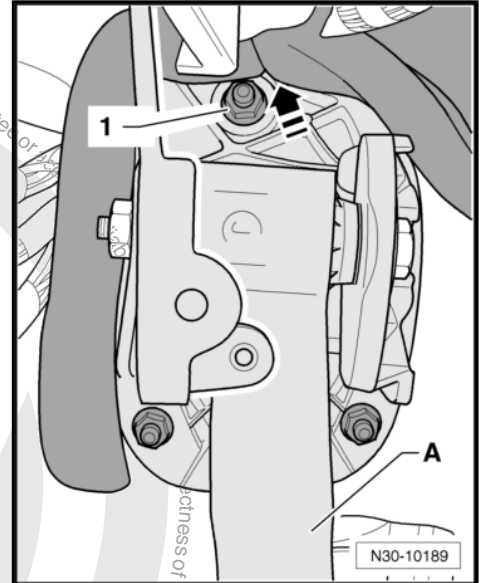


- Remove the washers -A- for the damper.
- Remove the damper.





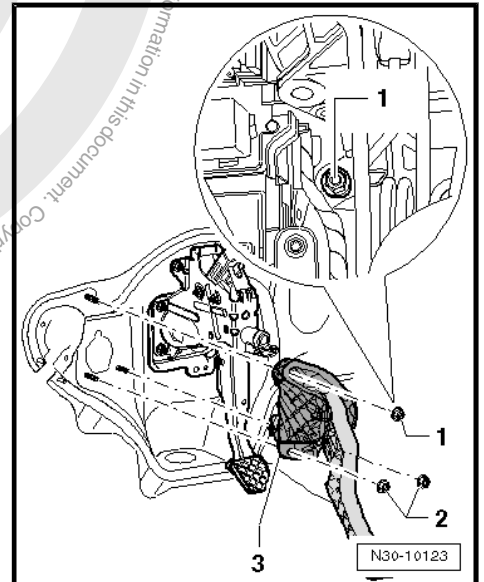
- Push the damper near the upper nut -1- above the clutch pedal
-A- upward in the direction of the -arrow-.



- Remove the nuts -1 and 2-.

The upper nut -1- is accessible between the relay panel and steering column trim.

- Remove the mounting bracket -3-.



2.5.2 Installing

Install in reverse order of removal while. Note the following:



Some vehicles have a damper -arrow- on the mounting bracket/ clutch pedal.



Note

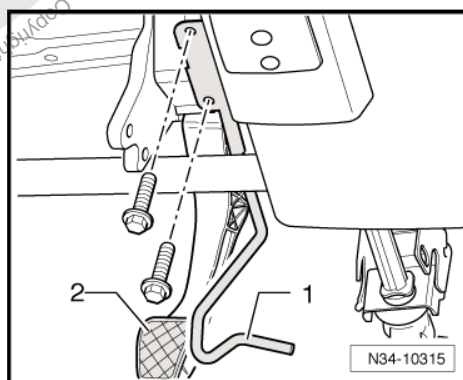
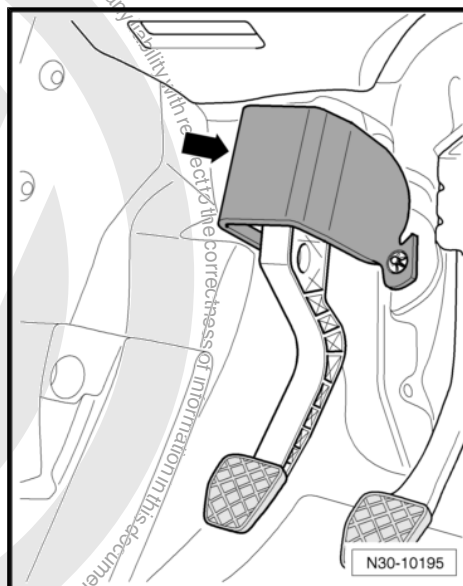
- ◆ Replace the self-locking nuts.
- ◆ Replace the hose clamps
- ◆ Allocate all components according to the Parts Catalog.

Vehicles without Knee Airbag

There are different ways of securing the impact bolster -1- in front of the clutch pedal -2-.

Securing with two bolts

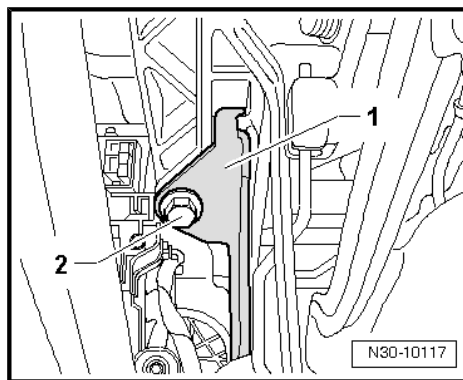
- Install the crash bolster -1- and tighten the 2 bolts to the tightening specification. Refer to
⇒ ["2.5.3 Tightening Specifications", page 31](#) .



Securing with one bolt

- Install the crash bolster -1- and tighten the bolt -2- to the tightening specification. Refer to
⇒ ["2.5.3 Tightening Specifications", page 31](#) .

Continuation for All



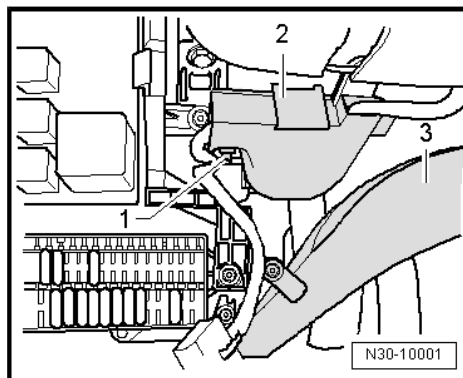
- Attach the cable guide -2- to the steering column.
- Install the footwell vents -3-. Refer to ⇒ Heating, Ventilation and Air Conditioning; Rep. Gr. 80 ; Heating, Servicing; Vents, Removing, Jetta from MY 2011 .

Vehicles with Knee Airbag

- Install the knee airbag bracket and the crash bolster. Refer to
⇒ Body Interior; Rep. Gr. 69 .

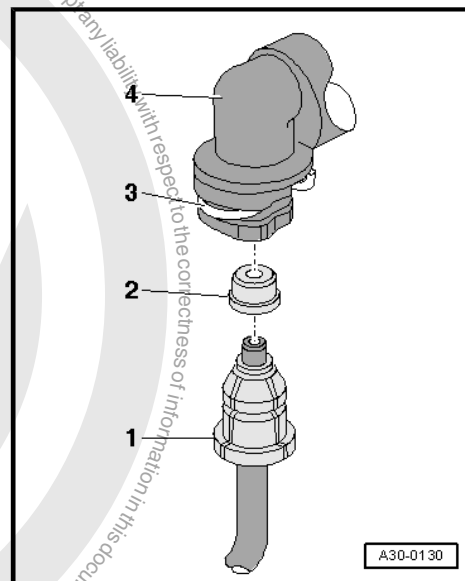
Continuation for All

- Install the trim and the cover under the trim on the driver side. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Steering Column Trim Panel, Removing and Installing .





- Press the hose/line assembly or plastic line -1- into the master cylinder connection -4- with the new seal -2- until the clip -3- audibly locks into place.
- Pull on the line to make sure it is secure.
- After removing the Hose Clamps - Up To 25mm - 3094- , return the hose back to its original shape if necessary.
- Bleed the clutch mechanism. Refer to
⇒ [“3 Clutch Mechanism, Bleeding”, page 42](#) .
- Install the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .
- If removed, install the complete air filter housing. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .



2.5.3 Tightening Specifications

Component	Nm
Mounting bracket to bulkhead ♦ Replace the self-locking nuts.	25
Impact bolster to mounting bracket/steering column (secured with two bolts)	10
Impact bolster to mounting bracket/steering column (secured with one bolt)	20
♦ Replace the impact bolster bolts	

2.6 Clutch Master Cylinder, Removing and Installing

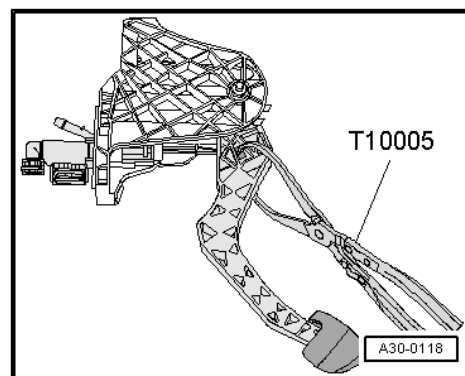
⇒ [“2.6.1 Removing”, page 31](#)

⇒ [“2.6.2 Installing”, page 32](#)

2.6.1 Removing

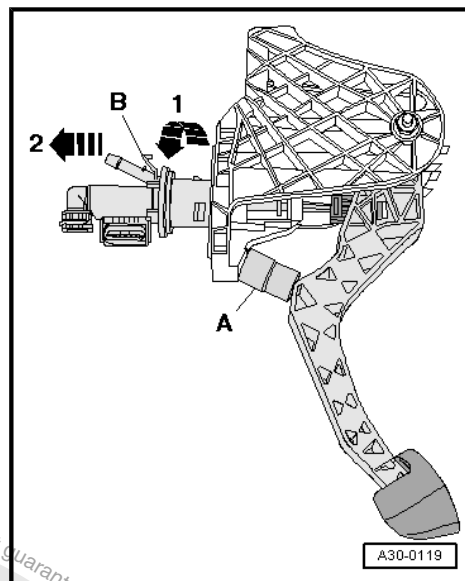
Special tools and workshop equipment required

- ♦ Clutch Pedal Pliers - T10005-
- Remove the mounting bracket. Refer to
⇒ [“2.5 Mounting Bracket, Removing and Installing”, page 26](#) .
- Release the mount for the clutch master cylinder actuator rod using the Clutch Pedal Pliers - T10005- .



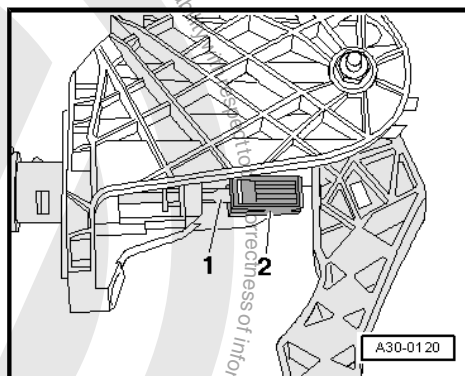


- Place a spacer -A- between the clutch pedal and the stop and push the clutch pedal down as far as the spacer.
- ◆ Spacer length = approximately 40 mm (for example, $\frac{1}{2}$ socket insert)
- Unlock the securing clip -B- and remove the clutch master cylinder from the mounting bracket -arrow 1 and arrow 2-.

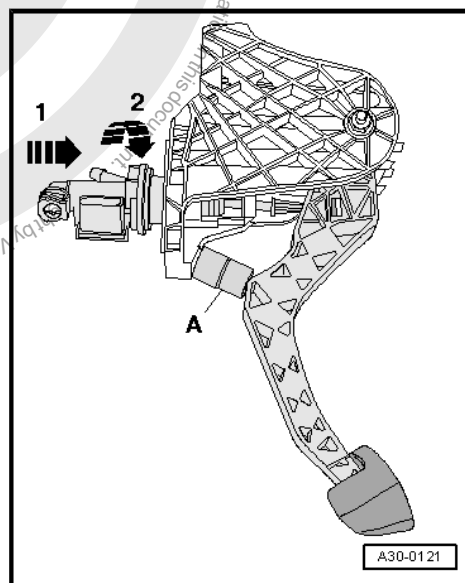


2.6.2 Installing

- Move the clutch pedal into its rest position.
- Attach the mount -2- to the clutch master cylinder actuator rod -1-.

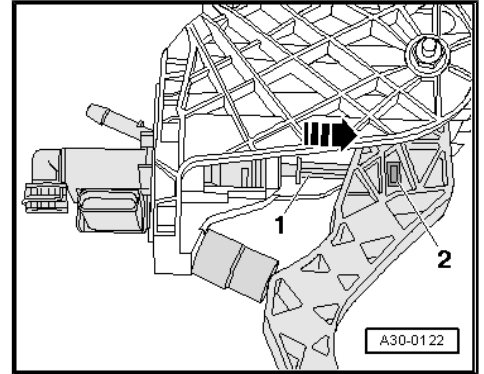


- Place a spacer -A- between the clutch pedal and the stop and push the clutch pedal down as far as the spacer.
- ◆ Spacer length = approximately 40 mm (for example, $\frac{1}{2}$ socket insert)
- Lock the clutch master cylinder to the mounting bracket -arrow 1 and arrow 2-.





- Push the clutch master cylinder actuator rod -1- in direction of -arrow- until the mount -2- audibly engages inside the clutch pedal.
- Install the mounting bracket. Refer to
⇒ [“2.5 Mounting Bracket, Removing and Installing”, page 26](#) .



2.7 Clutch Position Sensor - G476- , Removing and Installing

⇒ [“2.7.1 Removing”, page 33](#)

⇒ [“2.7.2 Installing”, page 34](#)

2.7.1 Removing

Special tools and workshop equipment required

- ◆ Hose Clamps - Up To 25 mm - 3094-
- Determine whether a coded radio is installed. If so, obtain the anti-theft code.

Disconnect the battery ground cable. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

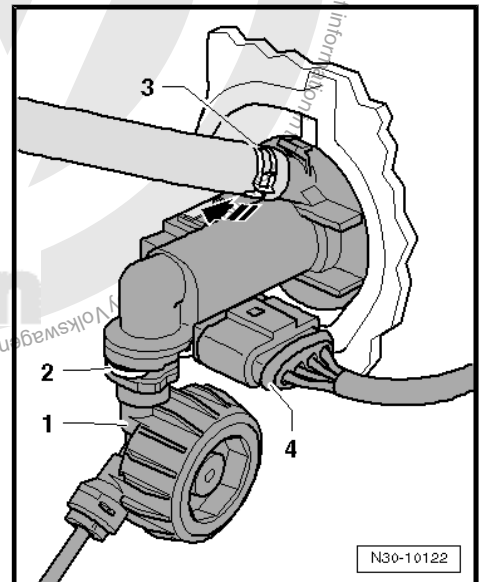
- Remove the entire air filter housing if it is located near the battery. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .

If a hose/line assembly -1- with a round component is installed directly below the clutch master cylinder, hose/line assembly must be removed.



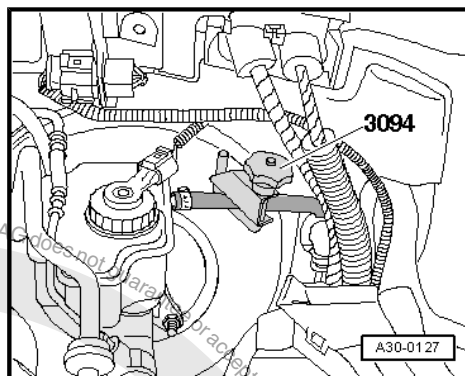
Note

Be careful not to get any brake fluid on the longitudinal member or on the transmission when performing the following work. If it does, clean the areas thoroughly.

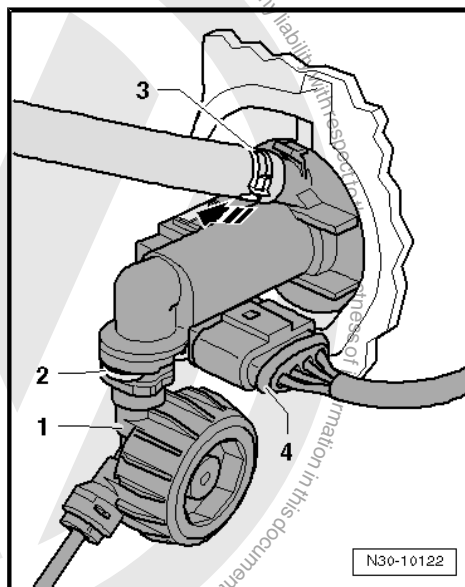




- Clamp the supply hose to the clutch master cylinder using Hose Clamps - Up To 25mm - 3094- .



- Disengage the clamp -2- using a screwdriver or a pointed tool and pull the clutch master cylinder out until it stops.
- Disconnect the hose/line assembly -1- or plastic line from the clutch master cylinder and seal it.
- Disconnect the connector -4-.
- Unclip the Clutch Position Sensor - G476- from the clutch master cylinder -arrow- and remove it.



2.7.2 Installing

Install in reverse order of removal while. Note the following:



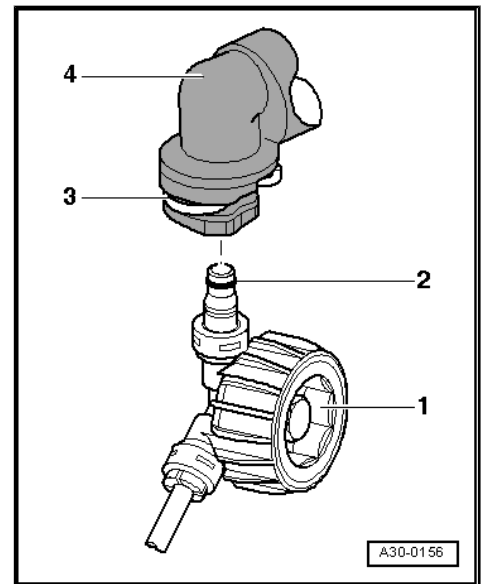
Note

Allocate all components according to the Parts Catalog.



If the hose/line assembly was removed:

- Install hose/line assembly-1- or plastic line with new seal -2- on the master cylinder connection -4- until clip -3- audibly engages.
- Pull on the hose/line assembly or plastic line to make sure it is secure.
- After removing the Hose Clamps - Up To 25mm - 3094- , return the hose back to its original shape if necessary.
- Bleed the clutch mechanism. Refer to [⇒ "3 Clutch Mechanism, Bleeding", page 42](#) .
- Install the battery tray and the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .
- If removed, install the complete air filter housing. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Connect the battery and follow the procedure regarding what to do after connecting a battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .



2.8 Overview - Hydraulics

1 - Brake Fluid Reservoir

2 - Spring Clamp

- ☐ Not available

3 - Hose

- ☐ Made of plastic. Refer to [⇒ Fig. "Plastic hose -1-", page 37](#)

4 - Clutch Master Cylinder

- ☐ Removing and installing. Refer to [⇒ "2.6 Clutch Master Cylinder, Removing and Installing", page 31](#) .

5 - Clamp

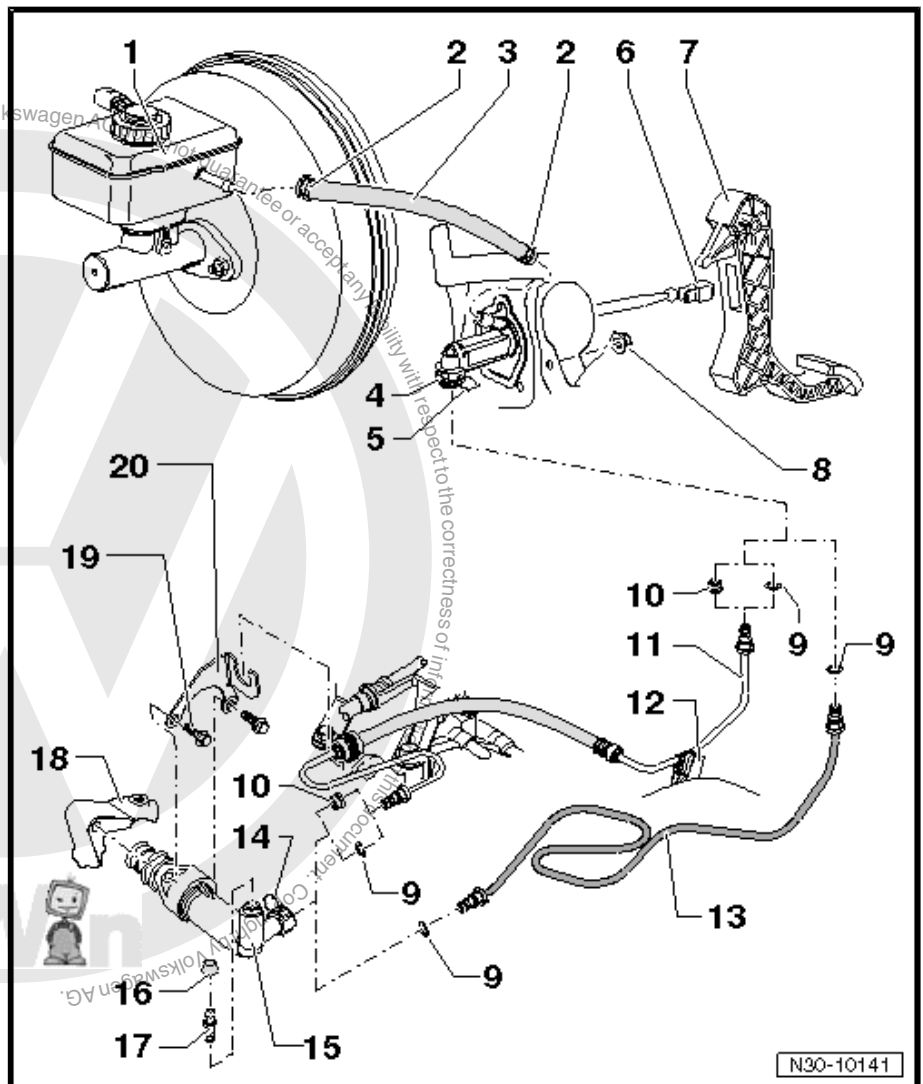
- ☐ To remove and install line between the clutch master and slave cylinder, pull clip out as far as stop.
- ☐ On some clutch master cylinders, it is pulled out on the side

6 - Support

- ☐ To remove and install, disconnect the clutch master cylinder from the clutch pedal. Refer to [⇒ "2.4 Clutch Pedal, Removing and Installing", page 21](#)

7 - Clutch Pedal

- ☐ Removing and installing. Refer to





⇒ [“2.4 Clutch Pedal, Removing and Installing”, page 21](#) .

8 - Nut

- ❑ Information and tightening specification: -item 15- ⇒ [Item 15 \(page 15\)](#) .

9 - O-Ring

- ❑ Install on the line connection
- ❑ Install with brake fluid
- ❑ Seals/O-rings suitable for the line connection version. Refer to
⇒ [Fig. “Seals/O-ring for the Hose/Line Assembly \(or Plastic Line\)”](#) , page 37
- ❑ Allocation. Refer to the Parts Catalog.

10 - Seal

- ❑ Install on the line connection
- ❑ Install with brake fluid
- ❑ Seals/ O-rings suitable for the line connection material. Refer to
⇒ [Fig. “Seals/O-ring for the Hose/Line Assembly \(or Plastic Line\)”](#) , page 37 .
- ❑ Allocation. Refer to the Parts Catalog.

11 - Hose/Line Assembly

- ❑ Allocation. Refer to the Parts Catalog.
- ❑ To remove, remove the battery and battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .

12 - Bracket

- ❑ For hose/line assembly -item 11- ⇒ [Item 11 \(page 36\)](#)
- ❑ Attached to the body

13 - Plastic Line

- ❑ Allocation. Refer to the Parts Catalog.
- ❑ To remove, remove the battery and battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .

14 - Clamp

- ❑ To remove and install line between the clutch master and slave cylinder, pull clip out as far as stop.

15 - Clutch Slave Cylinder

- ❑ Removing and installing. Refer to ⇒ [“2.10 Clutch Slave Cylinder, Removing and Installing”, page 39](#) .

16 - Dust Cap

17 - Breather Valve

- ❑ Bleed clutch mechanism. Refer to ⇒ [“3 Clutch Mechanism, Bleeding”, page 42](#) .

18 - Transmission

19 - Hex bolt

- ❑ Tightening specification: -item 9- ⇒ [Item 9 \(page 44\)](#)

20 - Bracket

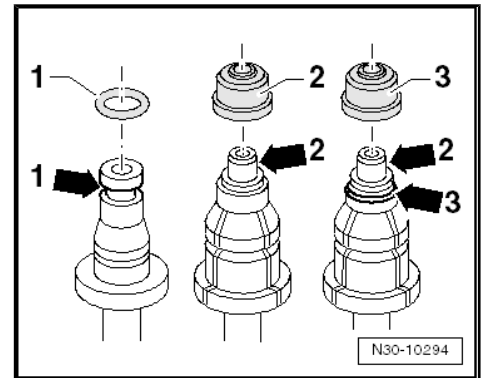
- ❑ For hose/line assembly -item 11- ⇒ [Item 11 \(page 36\)](#)



Seals/O-ring for the Hose/Line Assembly (or Plastic Line)

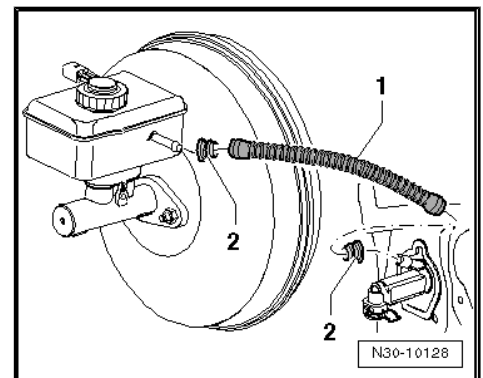
Item	Line connection version
1	Line connection with a groove all the way around -arrow 1-
2	Line connection with a shoulder -arrow 2-
3	Line connection with a shoulder -arrow 2- and with a groove all the way around -arrow 3-

- The seal / O-ring must be installed in the groove -arrow 1- and -arrow 3-.



Plastic hose -1-

- The seals -2- must be inside the hose.



2.9 Overview - Hydraulics, RHD





1 - Brake Fluid Reservoir

2 - Seal

- ☐ For the plastic hose
- ☐ The seals must be inside the hose

3 - Hose

- ☐ Made of plastic. Refer to
⇒ [Fig. "Plastic hose -1-"
", page 37](#)

4 - Clutch Master Cylinder

- ☐ Removing and installing. Refer to
⇒ ["2.6 Clutch Master
Cylinder, Removing and
Installing", page 31](#) .

5 - Clamp

- ☐ To remove and install the line, remove the clip up to the stop
- ☐ On some clutch master cylinders, it is pulled out on the side

6 - Seal/O-Ring

- ☐ Install on the line connection
- ☐ Install with brake fluid
- ☐ Seals/O-rings suitable for the line connection version. Refer to
⇒ [Fig. "Seals/O-ring
for the Hose/Line As-
sembly \(or Plastic
Line\)"", page 37](#)

- ☐ Allocation. Refer to the Parts Catalog.

7 - Support

- ☐ To remove and install, disconnect the clutch master cylinder from the clutch pedal. Refer to
⇒ ["2.4 Clutch Pedal, Removing and Installing", page 21](#) .

8 - Clutch Pedal

- ☐ Removing and installing. Refer to ⇒ ["2.4 Clutch Pedal, Removing and Installing", page 21](#) .

9 - Nut

- ☐ Information and tightening specification: -item 15- ⇒ [Item 15 \(page 15\)](#) .

10 - Bracket

- ☐ Attached to the body

11 - Hose/Line Assembly

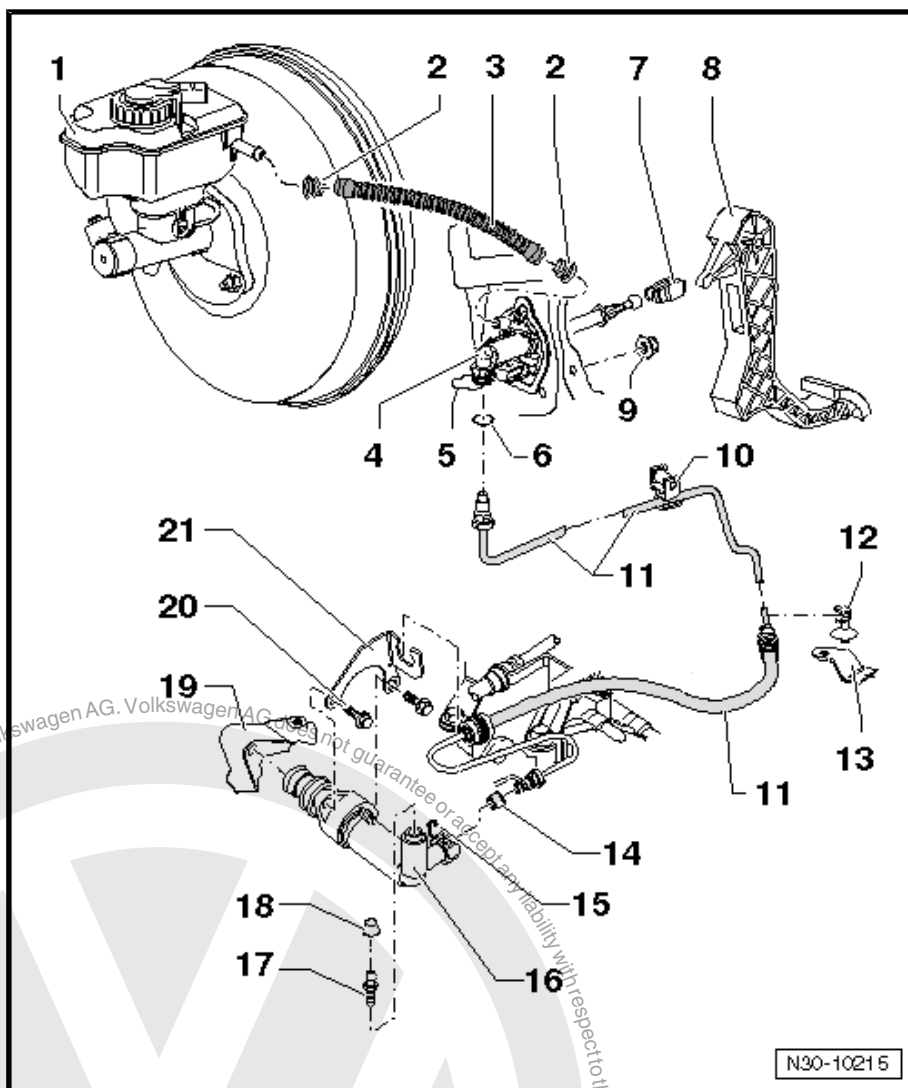
- ☐ Allocation. Refer to the Parts Catalog .
- ☐ To remove, remove the battery and battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .

12 - Bracket

- ☐ Secured on the ABS/EDL bracket

13 - Bracket

- ☐ for ABS/EDL





14 - Seal/O-Ring

- ☐ Install on the line connection
- ☐ Install with brake fluid
- ☐ Seals/O-rings suitable for the line connection version. Refer to
⇒ [Fig. “Seals/O-ring for the Hose/Line Assembly \(or Plastic Line\)”](#), page 37
- ☐ Allocation. Refer to the Parts Catalog.

15 - Clamp

- ☐ The clamp must be removed in order to remove/install the hose/line assembly

16 - Clutch Slave Cylinder

- ☐ Removing and installing. Refer to ⇒ [“2.10 Clutch Slave Cylinder, Removing and Installing”](#), page 39 .

17 - Breather Valve

- ☐ Bleed clutch mechanism. Refer to ⇒ [“3 Clutch Mechanism, Bleeding”](#), page 42 .

18 - Dust Cap

19 - Transmission

20 - Hex bolt

- ☐ Tightening specification: -9- ⇒ [Item 9 \(page 44\)](#)

21 - Bracket

2.10 Clutch Slave Cylinder, Removing and Installing

⇒ [“2.10.1 Removing”](#), page 39

⇒ [“2.10.2 Installing”](#), page 40

2.10.1 Removing

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- Determine whether a coded radio is installed. If so, obtain the anti-theft code.

Disconnect the battery ground cable. Refer to ⇒ [Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting](#) .

- Remove the air filter housing if it is located over the clutch slave cylinder. Refer to ⇒ [Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing](#) .



- Remove the shift cable lock washer -arrow 1- from the gear-shift lever -A-.
- Remove the shift cable from the pins.

Metal Relay Lever

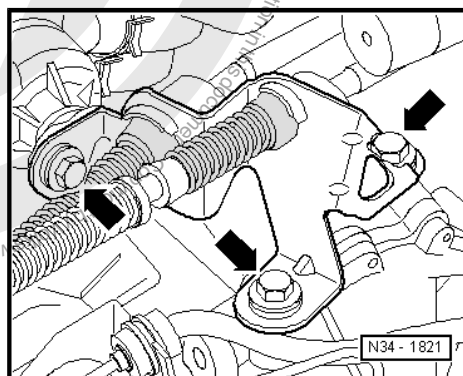
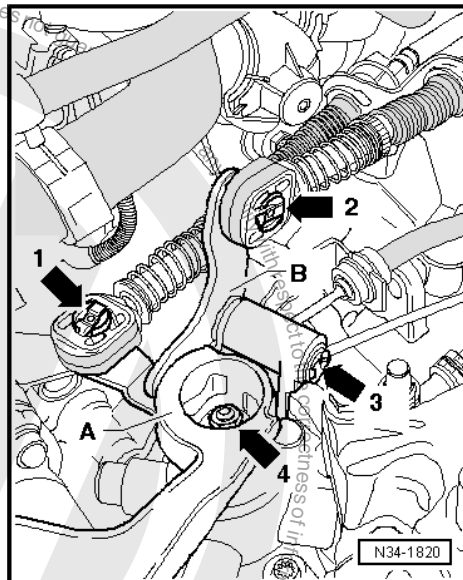
- Remove the selector cable circlip -2- from the relay lever -B-.
- Remove the selector cable from the pins.
- Remove the lock washer -arrow 3- from the relay lever -B- and then remove the relay lever.

Plastic Relay Lever

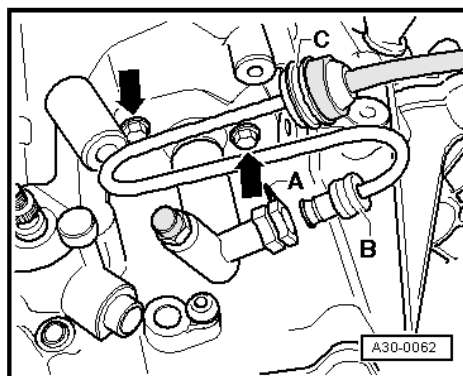
- Remove the relay lever together with the cable retainer from the transmission. Refer to
⇒ [“1.11 Plastic Relay Lever”, page 78](#).

Continuation for All

- Remove the nut -arrow 4- and then remove the transmission shift lever -A-.
- Remove the cable bracket from the transmission -arrows-.
- Tie up the shift cable and the selector cable.
- Place a lint-free cloth under the clutch slave cylinder.



- Pull clip -A- for line between clutch master and slave cylinder out of the clutch slave cylinder as far as stop.
- Pull line between clutch master and slave cylinder out of mount -C-.
- Pull line connection -B- out of clutch slave cylinder and seal opening.
- Remove the clutch slave cylinder -arrows-.



Caution

Do not press the clutch pedal anymore.

2.10.2 Installing

Install in reverse order of removal while. Note the following:

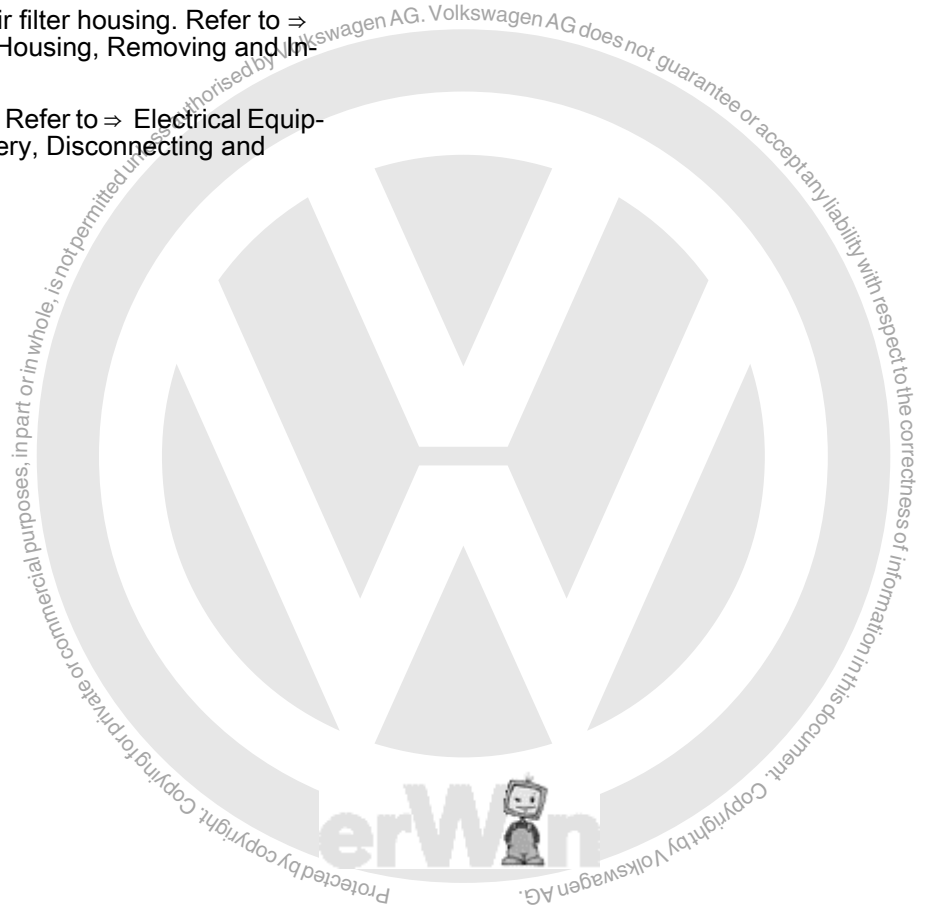
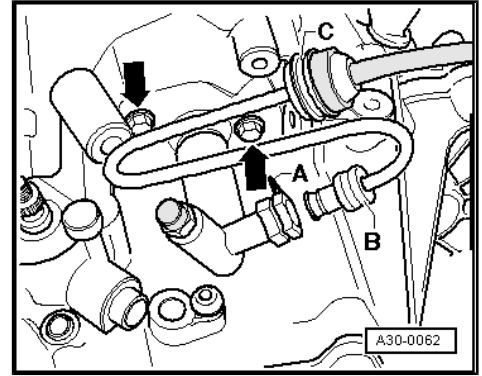


- Install the clutch slave cylinder and tighten the bolts -arrows- to the tightening specification -item 9- ➔ [Item 9 \(page 44\)](#) .
- Insert the line -B- between clutch master and slave cylinder in the clutch slave cylinder as far as stop.
- Install the clip -A- for securing the line between the clutch master and slave cylinder as far as stop.
- Pull on the line to make sure it is secure.
- Install the line between the clutch master and slave cylinder all the way into the mount -C- on transmission.
- Bleed the clutch mechanism after installing the clutch slave cylinder. Refer to ➔ ["3 Clutch Mechanism, Bleeding", page 42](#) .
- Assemble the gearshift mechanism. Refer to ➔ ["1.8 Selector Mechanism, Removing and Installing", page 70](#) .

Adjust the gearshift mechanism. Refer to

➔ ["1.10 Selector Mechanism, Adjusting", page 76](#) .

- If removed, install the complete air filter housing. Refer to ➔ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Connect the battery ground cable. Refer to ➔ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .





3 Clutch Mechanism, Bleeding

Special tools and workshop equipment required

- ◆ Brake Charger/Bleeder Unit - VAS5234- or
- ◆ Brake Charger/Bleeder Unit - VAG1869-



Note

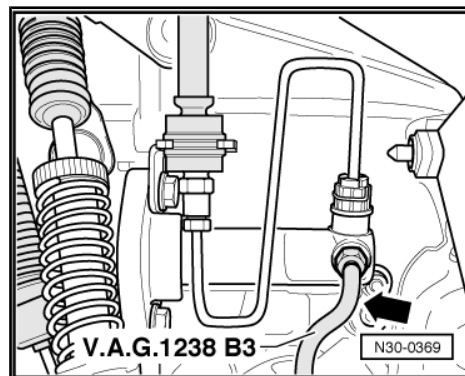
It is not necessary to pre-fill the system.

Brake fluid specification. Refer to ⇒ Brake System; Rep. Gr. 47 ; Hydraulic System .

- Remove the air filter housing if the breather valve -arrow- is not accessible. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Connect the Brake Charger/Bleeder Unit - VAS5234- or - VAG1869- .

It is necessary to use the Bleeder Hose (670 mm) - VAG1238/B3- to bleed.

- Connect the bleed hose to the brake bleeder unit collector bottle.
- Attach the bleed hose to the breather valve -arrow-.
- Apply 2 bar pressure to the system.
- Open the breather valve.
- Let approximately 100 cm³ of brake fluid flow out.
- Close the breather valve.
- Operate the pedal rapidly from stop to stop, 10 to 15 times.
- Open the breather valve again.
- Let another 50 cm³ of brake fluid flow out.
- Close the breather valve.
- Press the clutch pedal a few times after bleeding the system.
- If removed, install the complete air filter housing. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .





4 Clutch Release Mechanism, Servicing

⇒ ["4.1 Overview - Clutch Release Mechanism", page 43](#)

⇒ ["4.2 Clutch Release Lever with Release Bearing and Guide Sleeve, Removing and Installing", page 44](#)

4.1 Overview - Clutch Release Mechanism

1 - Release Bearing

- ☐ Remove and install together with the clutch release lever -item 3- ⇒ [Item 3 \(page 43\)](#) and guide sleeve -item 5- ⇒ [Item 5 \(page 43\)](#)

- ☐ Removing and installing. Refer to ⇒ ["4.2 Clutch Release Lever with Release Bearing and Guide Sleeve, Removing and Installing", page 44](#) .

- ☐ Do not wash the bearing, just wipe it off.
- ☐ Replace loud bearings

2 - Bolt

- ☐ 5 Nm and 90° additional turn
- ☐ Replace after removing

3 - Clutch Release Lever

- ☐ Remove and install together with the release bearing -item 1- ⇒ [Item 1 \(page 43\)](#) and guide sleeve -item 5- ⇒ [Item 5 \(page 43\)](#)
- ☐ Removing and installing. Refer to ⇒ ["4.2 Clutch Release Lever with Release Bearing and Guide Sleeve, Removing and Installing", page 44](#) .

- ☐ remove grease already present

4 - Spring

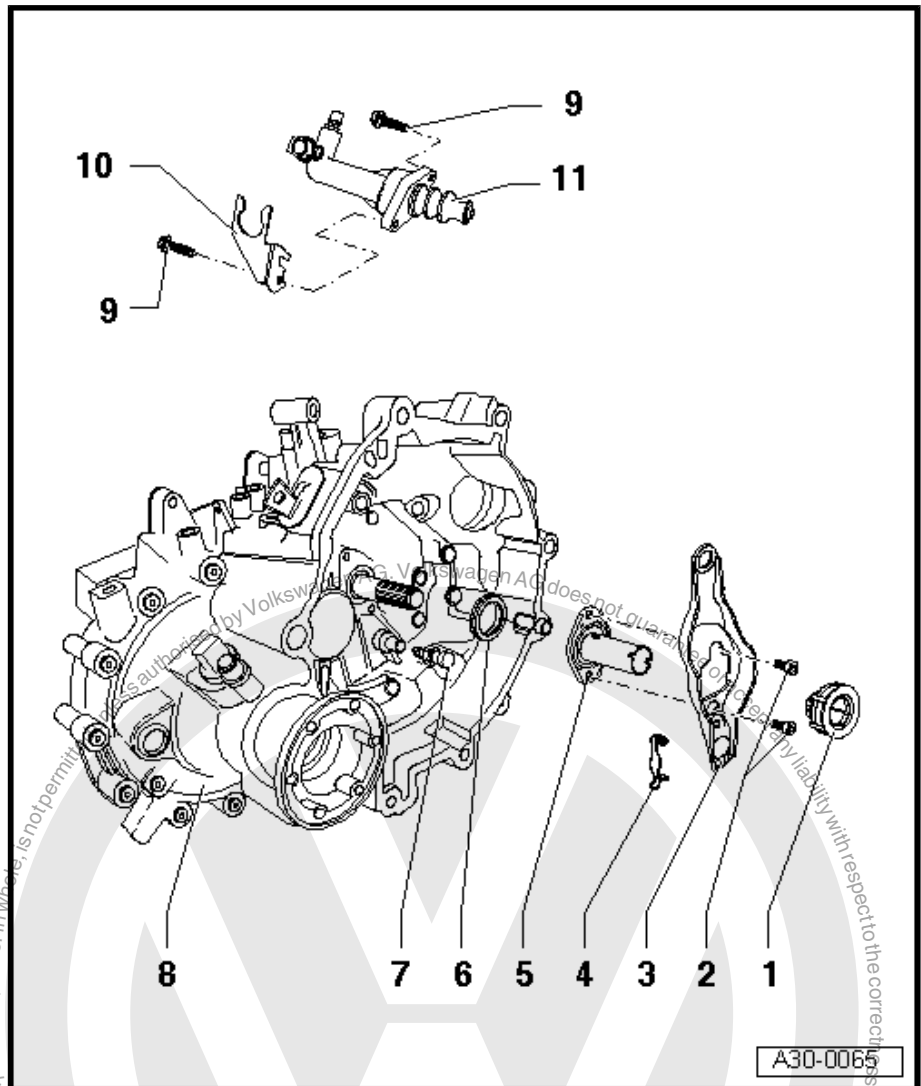
- ☐ Attach to the clutch release lever

5 - Guide Sleeve

- ☐ Remove and install together with the release bearing -item 1- ⇒ [Item 1 \(page 43\)](#) and clutch release lever -item 3- ⇒ [Item 3 \(page 43\)](#)
- ☐ Removing and installing. Refer to ⇒ ["4.2 Clutch Release Lever with Release Bearing and Guide Sleeve, Removing and Installing", page 44](#) .

6 - Input Shaft Seal

- ☐ Pry out with a screwdriver
- ☐ Installing. Refer to ⇒ [Fig. ""Installing the Seal for the Input Shaft"" , page 129](#)





7 - Ball Stud

- ☐ 20 Nm
- ☐ Remove grease already present
- ☐ Grease using the Grease for Clutch Disc Shaft Splines - G 000 100-

8 - Transmission

9 - Hex Bolt

- ☐ 20 Nm

10 - Bracket

- ☐ For hose/line assembly

11 - Clutch Slave Cylinder

- ☐ Removing and installing. Refer to ➤ ["2.10 Clutch Slave Cylinder, Removing and Installing", page 39](#) .

4.2 Clutch Release Lever with Release Bearing and Guide Sleeve, Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Clutch Release Lever with Release Bearing and Guide Sleeve, Removing and Installing

- Remove the bolts -arrows-.
- Remove clutch release lever with release bearing and guide slide from input shaft and ball joint pin.

Install in reverse order of removal.

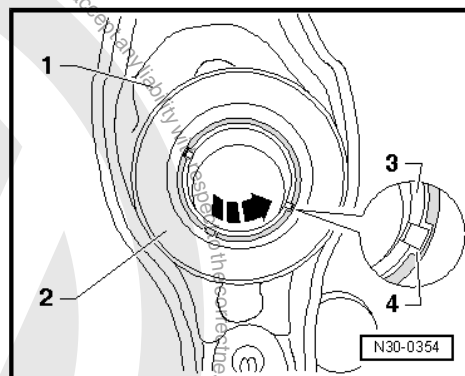
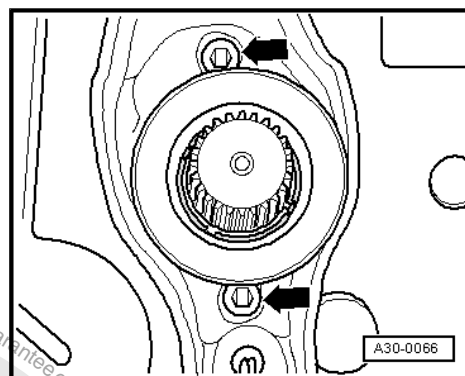
- The spring -item 4- ➤ [Item 4 \(page 43\)](#) must be engaged into the clutch release lever.

- ◆ Information and tightening specification: -item 2- ➤ [Item 2 \(page 43\)](#) .

Guide Sleeve, Removing and Installing

- The clutch release lever is removed.
- Remove the guide sleeve -3- upward out of release bearing -2-.
- Rotate the guide sleeve -3- opposite release bearing -2- in direction of -arrow- approximately 90° in direction of -arrow- until the tabs on the guide sleeve align with the grooves -4- on the release bearing.
- Pull the guide sleeve out of release bearing in this position.

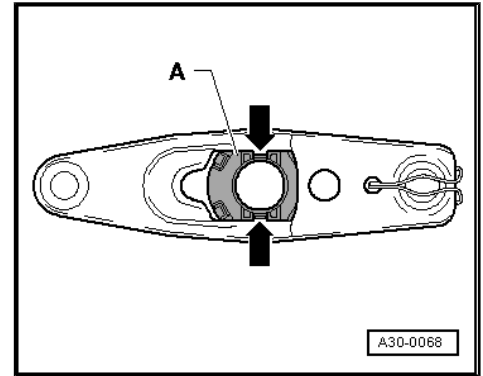
Install in reverse order of removal.





Release Bearing, Removing and Installing

- The clutch release lever is removed.
- Press the tabs -arrows- together on backside of clutch release lever and remove release bearing -A- out of clutch release lever.
- To install, press the release bearing -A- into the clutch release lever until the tabs -arrows- engage.





5 Clutch, Servicing

Special tools and workshop equipment required

- ◆ Flywheel Retainer - 3067-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Alignment Tool - Clutch Plate - 3190A-
- ◆ On engines which have a crankshaft with a smaller diameter, or engines with a needle bearing in the crankshaft. Refer to [⇒ Fig. "Centering the clutch disc, removing and installing the pressure plate on engines with a crankshaft with a smaller diameter, or engines with a needle bearing -arrow- in the crankshaft." , page 49](#) Alignment Tool - Clutch Plate - T10086- .
- ◆ Grease for Clutch Disc Shaft Splines - G 000 100-

(Transmission removed)



Note

- ◆ *Make sure the alignment bushings for centering the engine/transmission are installed inside the cylinder block. Install them if necessary.*
- ◆ *If the alignment sleeves are missing, it will be difficult to shift, there will be clutch problems and the transmission may make noises (loose rattling).*
- ◆ *Replace clutch plates and pressure plates if the rivet connections are damaged or loose.*
- ◆ *Allocation. Refer to the Parts Catalog.*





1 - Flywheel

- ❑ Make sure it fits securely on the centering pins
- ❑ There must not be any grooves, oil or grease on the clutch plate contact surface.
- ❑ Removing and installing. Refer to ➔ Rep. Gr. 13 .

2 - Clutch Plate

- ❑ Allocation. Refer to the Parts Catalog.
- ❑ Dual mass flywheel installation position: the shorter hub end faces the pressure plate.
- ❑ The word "Getriebeseite" (transmission) always faces the pressure plate and toward transmission.
- ❑ Installation position with a single flywheel: the spring cage faces towards the pressure plate
- ❑ Centering. Refer to ➔ [Fig. "Centering the Clutch Plate and Removing and Installing Pressure Plate"](#), page 48
- ❑ Centering on engines which have a crankshaft with a smaller diameter, or engines with a needle bearing in the crankshaft. Refer to ➔ [Fig. "Centering the clutch disc, removing and installing the pressure plate on engines with a crankshaft with a smaller diameter, or engines with a needle bearing -arrow- in the crankshaft."](#), page 49
- ❑ Lightly grease the splines

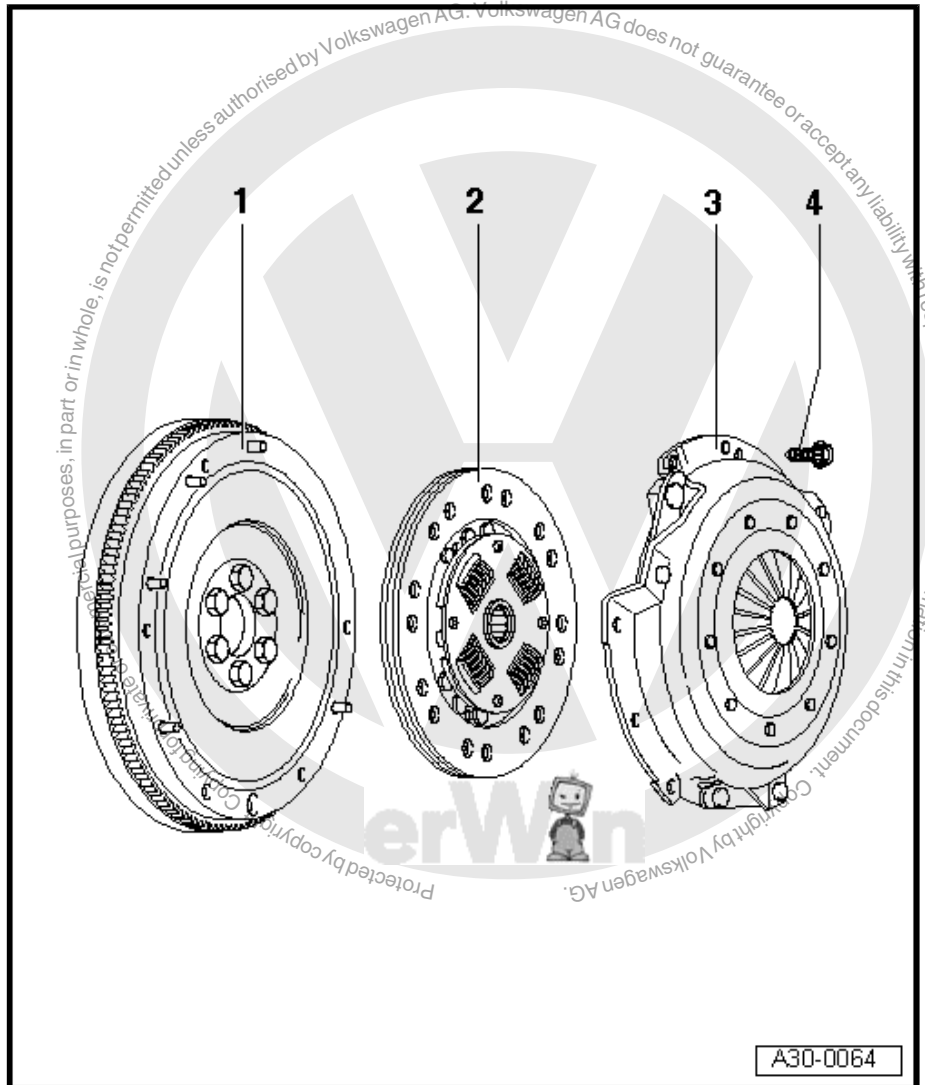


Note

Clean the input shaft splines and (on used clutch plates) the hub splines. Remove any corrosion and then apply a very thin coat of Grease for Clutch Disc Shaft Splines - G 000 100- on the driveshaft splines. Then move the clutch plate back and forth on the input shaft until the hub moves freely on the shaft. Remove any excess grease.

3 - Pressure Plate

- ❑ Removing and installing. Refer to ➔ [Fig. "Centering the Clutch Plate and Removing and Installing Pressure Plate"](#), page 48 .
- ❑ Removing and installing on engines which have a crankshaft with a smaller diameter, or engines with a needle bearing in the crankshaft. Refer to ➔ [Fig. "Centering the clutch disc, removing and installing the pressure plate on engines with a crankshaft with a smaller diameter, or engines with a needle bearing -arrow- in the crankshaft."](#), page 49





- ❑ Checking the ends of the diaphragm spring. Refer to
⇒ Fig. [“Check the ends of the diaphragm spring -arrows-”](#), page 49



Note

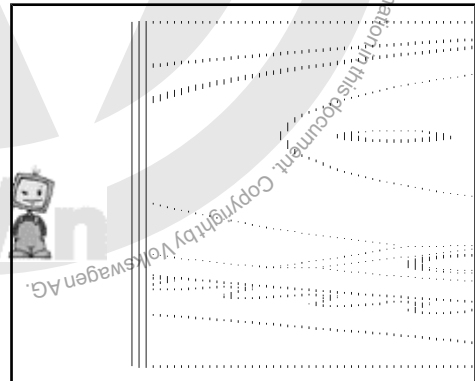
The pressure plates are protected from corrosion and lubricated. Only the running surfaces may be cleaned, otherwise the service life of the clutch will be shortened considerably.

4 - Bolt

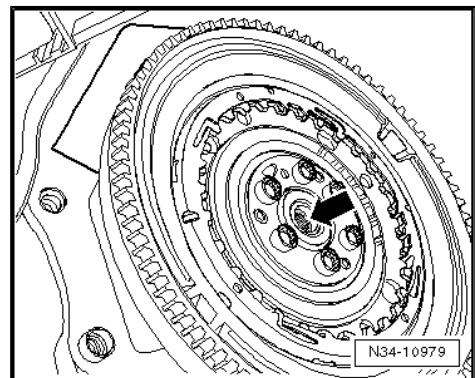
- ❑ M6: 13 Nm
- ❑ M7: 20 Nm
- ❑ Allocation. Refer to the Parts Catalog.
- ❑ Loosen and tighten in small steps and in diagonal sequence

Centering the Clutch Plate and Removing and Installing Pressure Plate

- Loosen or tighten the bolts diagonally and in steps.
- Install the Flywheel Retainer - 3067- when removing.



Engines having a crankshaft with a smaller diameter -arrow-, or engines having a needle bearing -arrow- in the crankshaft





Centering the clutch disc, removing and installing the pressure plate on engines with a crankshaft with a smaller diameter, or engines with a needle bearing -arrow- in the crankshaft.

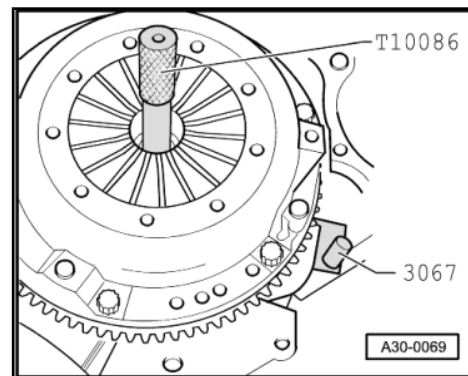
- Loosen or tighten bolts in stages in diagonal sequence in order to prevent damage to centering holes of pressure plate and centering pins of flywheel.
- Install the Flywheel Retainer - 3067- when removing.

Continuation for All



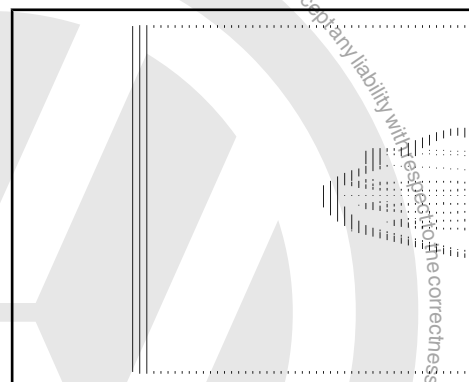
Note

- ◆ *The pressure plate contact surface and the clutch plate lining must completely touch the flywheel.*
- ◆ *Tighten securing bolts in diagonal sequence equally so that centering holes of pressure plate and centering pins of flywheel do not become damaged.*



Check the ends of the diaphragm spring -arrows-.

- Wear up to half the thickness of the diaphragm spring is permitted.





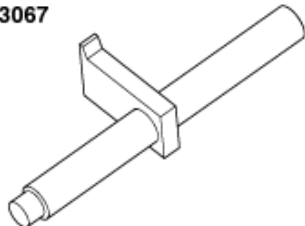
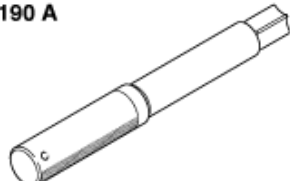

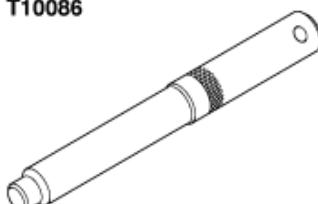
6 Special Tools

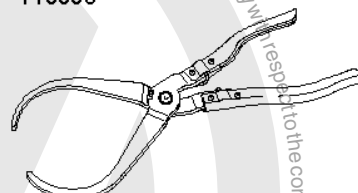


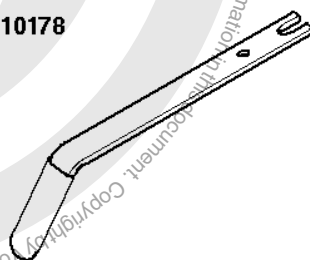



Special tools and workshop equipment required

- ◆ Pliers - T10005-
- ◆ Alignment Tool - Clutch Plate - T10086- .
- ◆ Assembly Tool - T10178-
- ◆ Sealing Tool - T10249-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Brake Charger/Bleeding Unit - VAG1869-
- ◆ Brake Charger/Bleeding Unit - VAS5234- or
- ◆ Hose Clamp Pliers - VAS6362-
- ◆ Flywheel Retainer - 3067-
- ◆ Hose Clamps Up to 25 mm Diameter - 3094-
- ◆ Alignment Tool - Clutch Plate - 3190A-

<p>3067</p> 	<p>3190 A</p> 
<p>V.A.G 1331</p> 	<p>T10086</p> 
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<p>T10005</p>  <p>W00-1063</p>

<p>T10178</p>  <p>W00-1390</p>

<p>T10249</p> <p>6. Special Tools /1</p>  <p>51</p>
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34 – Controls, Housing

1 Shift Mechanism, Servicing

⇒ [“1.1 Shift Mechanism Installation Position”, page 52](#)

⇒ [“1.2 Overview - Selector Mechanism”, page 54](#)

⇒ [“1.3 Overview - Gearshift Knob and Cover”, page 55](#)

⇒ [“1.4 Boot with Shifter Knob and Noise Insulation, Removing and Installing”, page 55](#)

⇒ [“1.5 Overview - Gearshift Lever and Gearshift Housing, through 10/2006”, page 57](#)

⇒ [“1.6 Gearshift Lever and Gearshift Housing, from 11/2006”, page 59](#)

⇒ [“1.7 Overview - Operating Cables”, page 66](#)

⇒ [“1.8 Selector Mechanism, Removing and Installing”, page 70](#)

⇒ [“1.9 Gearshift Cable and Selector Cable, Removing and Installing”, page 75](#)

⇒ [“1.10 Selector Mechanism, Adjusting”, page 76](#)

⇒ [“1.11 Plastic Relay Lever”, page 78](#)

1.1 Shift Mechanism Installation Position

-Arrow A- gearshift lever movement

-Arrow B- selector lever movement



A - Gearshift Lever Cable

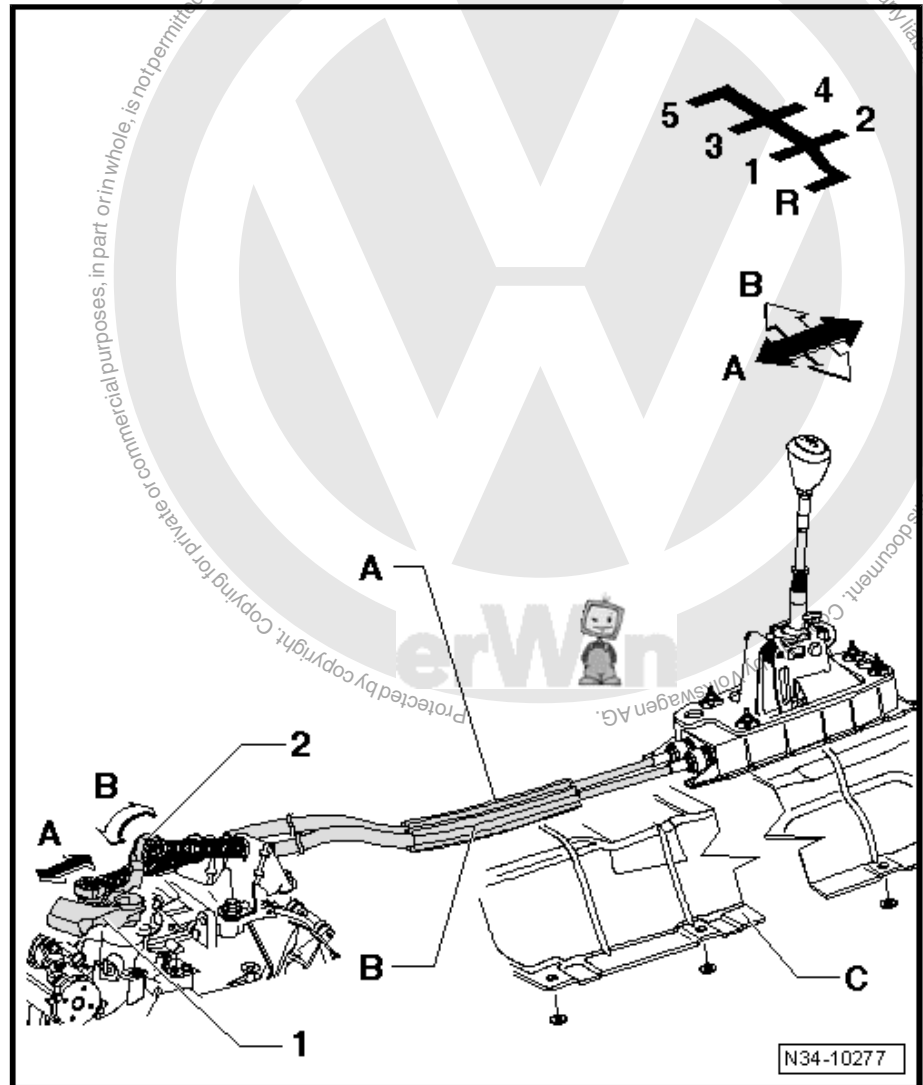
B - Selector Cable

C - Heat Shield

- ☐ Remove the gearshift mechanism before removal

1 - Selector Lever

2 - Relay Lever





1.2 Overview - Selector Mechanism



Note

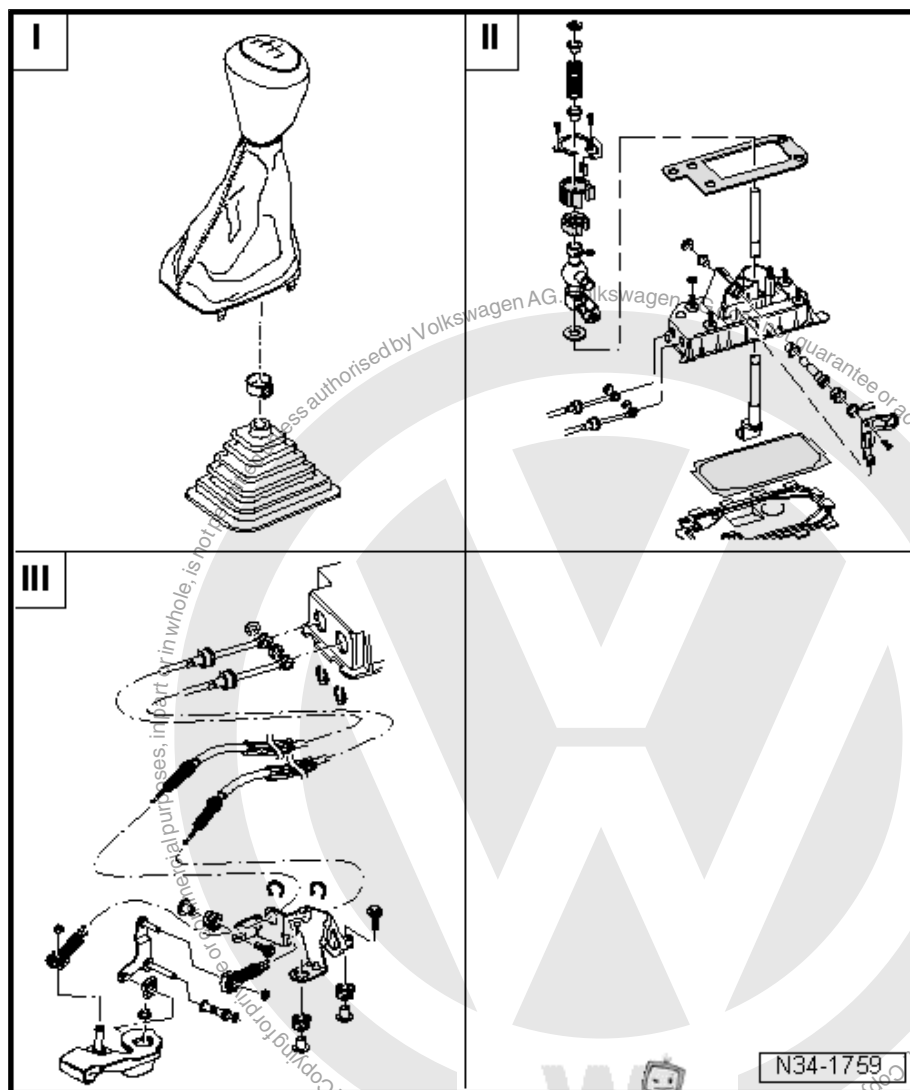
- ♦ Note radio code on vehicles with coded radio.
- ♦ Disconnect the ground cable from the battery when working on the gearshift mechanism inside the engine compartment. Refer to ⇒ [Electrical Equipment; Rep. Gr. 27; Battery; Battery, Disconnecting and Connecting](#).
- ♦ Connect battery and follow the procedures to be performed after connecting a battery. Refer to ⇒ [Electrical Equipment; Rep. Gr. 27; Battery; Battery, Disconnecting and Connecting](#).
- ♦ To work on gearshift mechanism in the engine compartment, remove entire air filter housing if it is located over the gearshift mechanism. Refer to ⇒ [Rep. Gr. 24; Air Filter; Air Filter Housing, Removing and Installing](#).
- ♦ The shift mechanism must be removed in order to replace the operating cables. Refer to ⇒ ["1.8 Selector Mechanism, Removing and Installing", page 70](#).
- ♦ Do not bend the operating cables.

I - Overview - Gearshift Knob and Cover. Refer to ⇒ ["1.3 Overview - Gearshift Knob and Cover", page 55](#).

II - Overview - Gearshift Lever and Gearshift Housing, through 10/2006. Refer to ⇒ ["1.5 Overview - Gearshift Lever and Gearshift Housing, through 10/2006", page 57](#).

II - Overview - Gearshift Lever and Gearshift Housing, from 11/2006. Refer to ⇒ ["1.6 Gearshift Lever and Gearshift Housing, from 11/2006", page 59](#).

III - Overview - Operating Cables. Refer to ⇒ ["1.7 Overview - Operating Cables", page 66](#)



Gearshift Mechanism, Removing and Installing. Refer to ⇒ ["1.8 Selector Mechanism, Removing and Installing", page 70](#).



Adjust the gearshift mechanism. Refer to
⇒ ["1.10 Selector Mechanism, Adjusting", page 76](#) .

1.3 Overview - Gearshift Knob and Cover

1 - Badge

- ☐ Can be carefully pried off a plastic or leather shift knob

2 - Gearshift Knob

- ☐ With boot
- ☐ The shift knob and boot cannot be separated from each other.
- ☐ Always replace together
- ☐ Removing and installing. Refer to
⇒ ["1.4 Boot with Shifter Knob and Noise Insulation, Removing and Installing", page 55](#) .

3 - Clamp

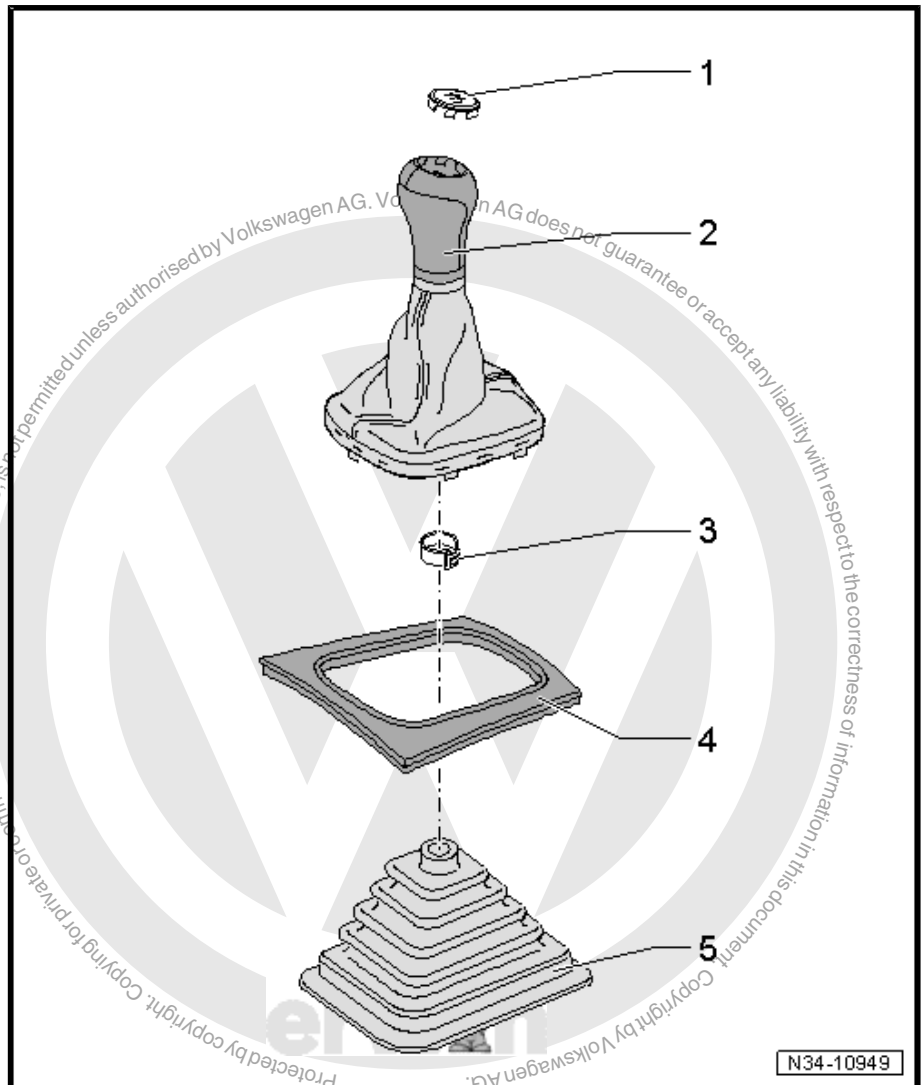
- ☐ For securing the shift knob to the shift lever
- ☐ Replace after removing
- ☐ Secure on the gearshift knob using Hose Clamp Pliers - VAG1275- .

4 - Center Control Cover

- ☐ Combined in one piece with the upper center console section on some versions

5 - Noise Insulation

- ☐ Not on all vehicles
- ☐ Arrow on noise insulation points in direction of travel
- ☐ Retaining tab spacing varies
- ☐ Therefore can only be arranged in one position



1.4 Boot with Shifter Knob and Noise Insulation, Removing and Installing

Special tools and workshop equipment required

- ◆ Hose Clip Pliers - VAG1275A-



- Remove the boot with the center console cover from the center console or pry it out carefully -arrows-.



Note

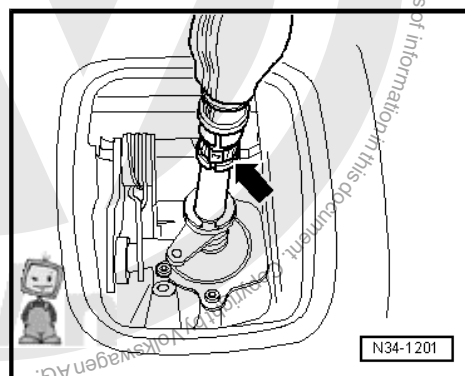
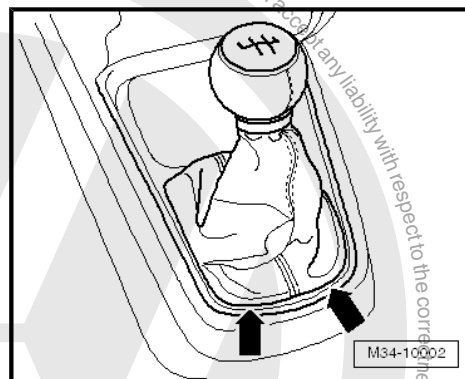
On some equipment versions, the boot must be pryed out at the front area.

- Fold the boot with the center console cover up over the shifter knob.

- Open the clamp -arrow- and remove the shift knob and boot.

In some equipment versions, the center console cover remains in the center console.

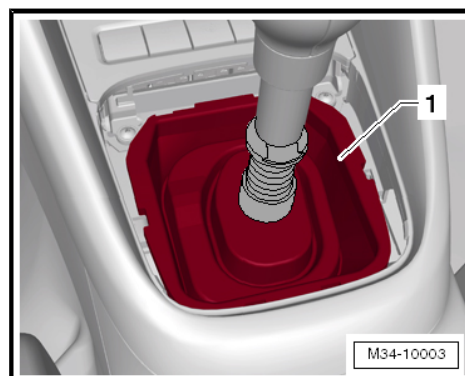
- Pull the center console cover out or pry it out carefully.



- Remove the noise insulation -1-.

Installing

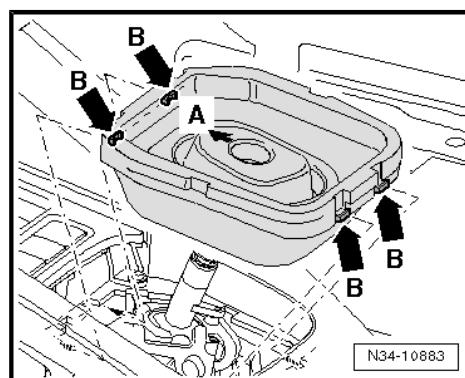
- Install the noise insulation.



Installation Location, Noise Insulation:

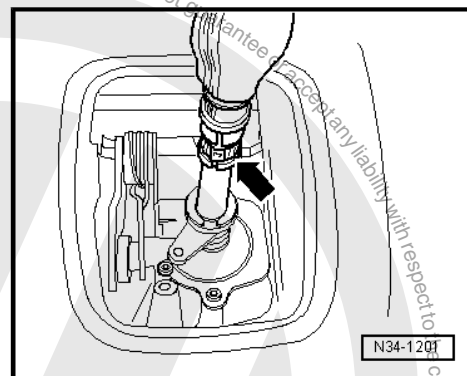
- -Arrow A- points in direction of travel.
- The tabs -arrows B- must latch into the center console.
- Press the center console cover into the center console.
- Then turn inner side of boot toward outside.

Install the shift knob all the way on.





- Install the shifter knob with cover and boot and press the new clamp -arrow- together.
- Press the boot and the cover into the center console or press the boot into the cover.



1.5 Overview - Gearshift Lever and Gearshift Housing, through 10/2006



Note

Lubricate the bearing areas and the sliding surfaces. Refer to the Parts Catalog for the grease allocation.

1 - Lock Washer

- ❑ Removing and installing. Refer to ➔ [Fig. "Removing and Installing the Lock Washer"](#), page 59 .

2 - Bushing

3 - Pressure Spring

4 - Bushing

5 - TORX® Bolt

- ❑ 5 Nm

6 - Cover

7 - Insulation

8 - Insulation

9 - Bearing Shell

10 - Gearshift Lever Guide

11 - Washer

12 - Seal

- ❑ Between the gearshift housing and the underbody
- ❑ Self-adhesive
- ❑ Affix to the gearshift housing

13 - Gearshift Lever

14 - Gearshift Housing

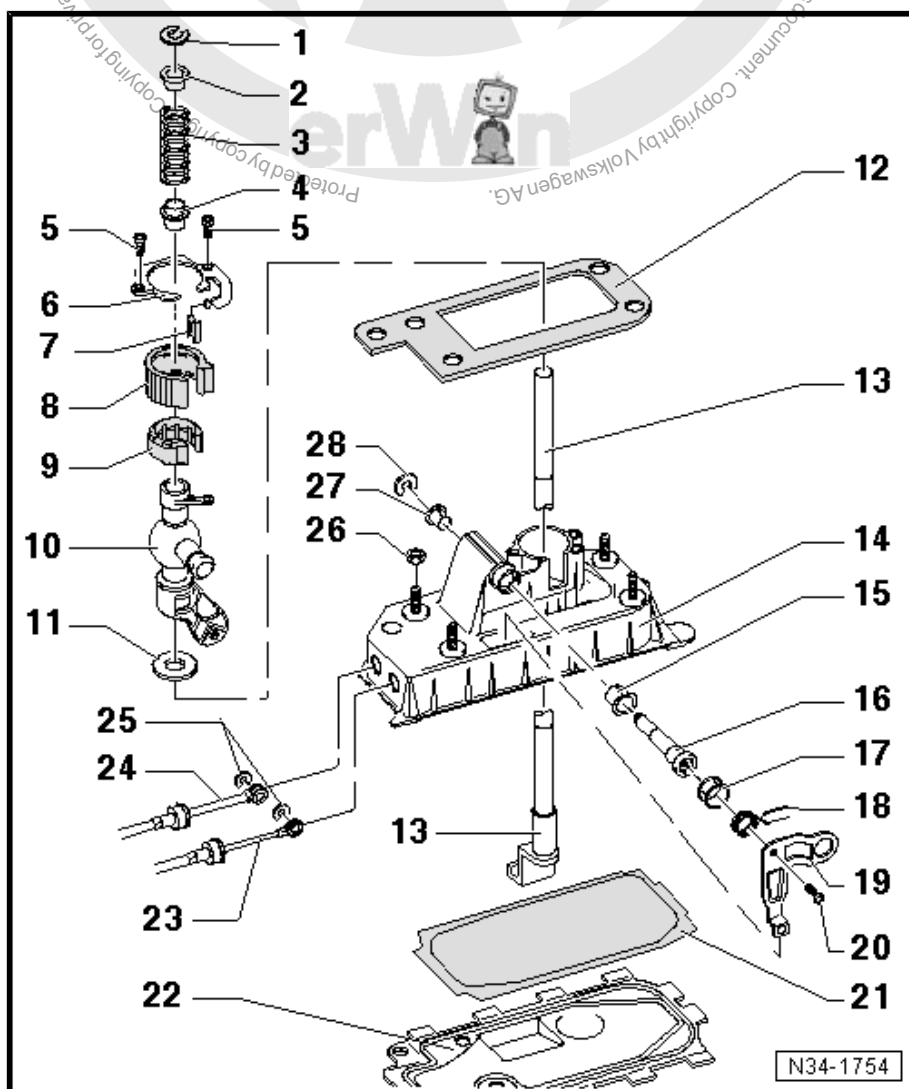
15 - Bearing Bushing

16 - Mounting Pin

17 - Guide Bushing

18 - Pressure Spring

- ❑ Installing. Refer to ➔ [Fig. "Installing the Pressure Spring"](#), page 59 .





19 - Selector Bracket

20 - TORX® Bolt

- ❑ 5 Nm

21 - Seal

- ❑ Replace after removing

22 - Base Plate

- ❑ Bend the tabs in order to remove
- ❑ Replace after removing

23 - Selector Cable

- ❑ To the selector bracket
- ❑ Removing and installing. Refer to
⇒ Fig. [“Detaching from the Selector Cable and the Shift Cable and Attaching”](#) , page 58 .

24 - Gearshift Cable

- ❑ Removing from the shift lever guide and attaching to the shift lever guide. Refer to
⇒ Fig. [“Detaching from the Selector Cable and the Shift Cable and Attaching”](#) , page 58

25 - Lock Washer

- ❑ Replace after removing

26 - Nut

- ❑ M 8: 25 Nm
- ❑ M 6: 8 Nm
- ❑ Quantity: 4

27 - Bearing Bushing

- ❑ Fits in one position only

28 - Lock Washer

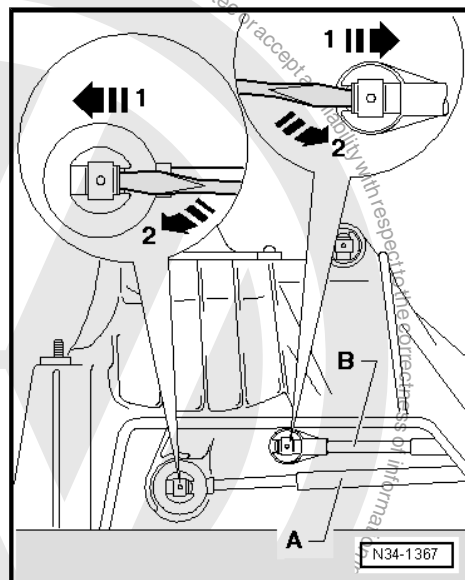
- ❑ Replace after removing

Detaching from the Selector Cable and the Shift Cable and Attaching

- Remove the lock washer from the shift cable -A- and the selector cable -B-.

Lift the tab with a screwdriver -arrow 1- and remove the lock washer -arrow 2-.

- Remove the shift cable -A- from the gearshift lever mount.
- Remove the selector cable -B- from the selector bracket mount.





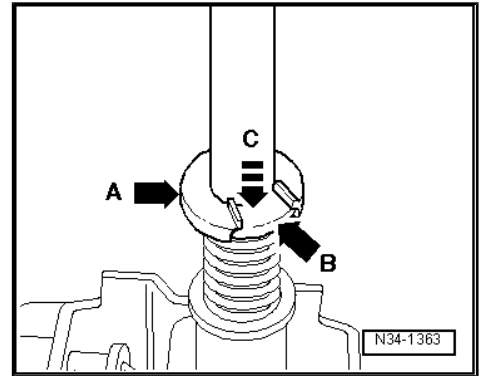
Removing and Installing the Lock Washer

- Push the spacer bushing -arrow B- all the way in direction of -arrow C- and remove or install the lock washer -arrow A-.



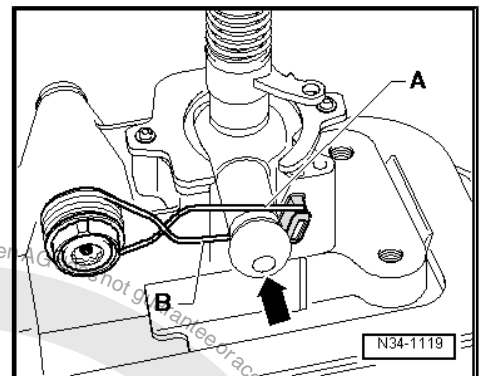
Note

- ◆ Do not tilt the bushing when pushing it down.
- ◆ The slot in the lever for the circlip must be visible.
- ◆ Carefully release the tension on the spring.



Installing the Pressure Spring

- Install the compression spring so that the brace -A- contacts upper part of pin -arrow-.
- Pull the brace -B- downward so that it reached the bottom of the pin -arrow-.



1.6 Gearshift Lever and Gearshift Housing, from 11/2006

⇒ ["1.6.1 Overview - Gearshift Lever and Gearshift Housing, from 11/2006", page 59](#)

⇒ ["1.6.2 Selector Mechanism, Disassembling and Assembling", page 61](#)

1.6.1 Overview - Gearshift Lever and Gearshift Housing, from 11/2006



Note

- ◆ Lubricate the bearing areas and the sliding surfaces. Refer to the Parts Catalog for the grease allocation.
- ◆ Gearshift Mechanism, Disassembling and Assembling. Refer to ["1.6.2 Selector Mechanism, Disassembling and Assembling", page 61](#).



1 - Base Plate

- ☐ Bend the tabs in order to remove
- ☐ Replace after removing

2 - Seal

- ☐ Replace after removing

3 - Gearshift Lever

- ☐ Can be removed and installed with the shift lever guide installed -item 15-
⇒ [Item 15 \(page 60\)](#) .

4 - Washer

- ☐ Slide out of shift lever as far as stop -arrow-.

5 - Lock Washer

- ☐ Be careful not to damage the cables when removing them
- ☐ Replace after removing

6 - Selector Cable

- ☐ Pry off of selector bracket
- ☐ Press onto selector bracket inside the shift mechanism
- ☐ Installation position. Refer to
⇒ ["1.1 Shift Mechanism Installation Position"](#),
[page 52](#) .

7 - Bushing

8 - Gearshift Cable

- ☐ Pry off of shift lever guide
- ☐ Press onto shift lever guide inside the shift mechanism
- ☐ Installation position. Refer to ⇒ ["1.1 Shift Mechanism Installation Position"](#), [page 52](#) .

9 - Insulation

10 - Bearing Shell

- ☐ Will get damaged when being removed
- ☐ Replace after removing

11 - Bushing

12 - Lock Washer

- ☐ Removing and installing. Refer to ⇒ [Fig. "Removing and Installing the Lock Washer"](#), [page 61](#) .

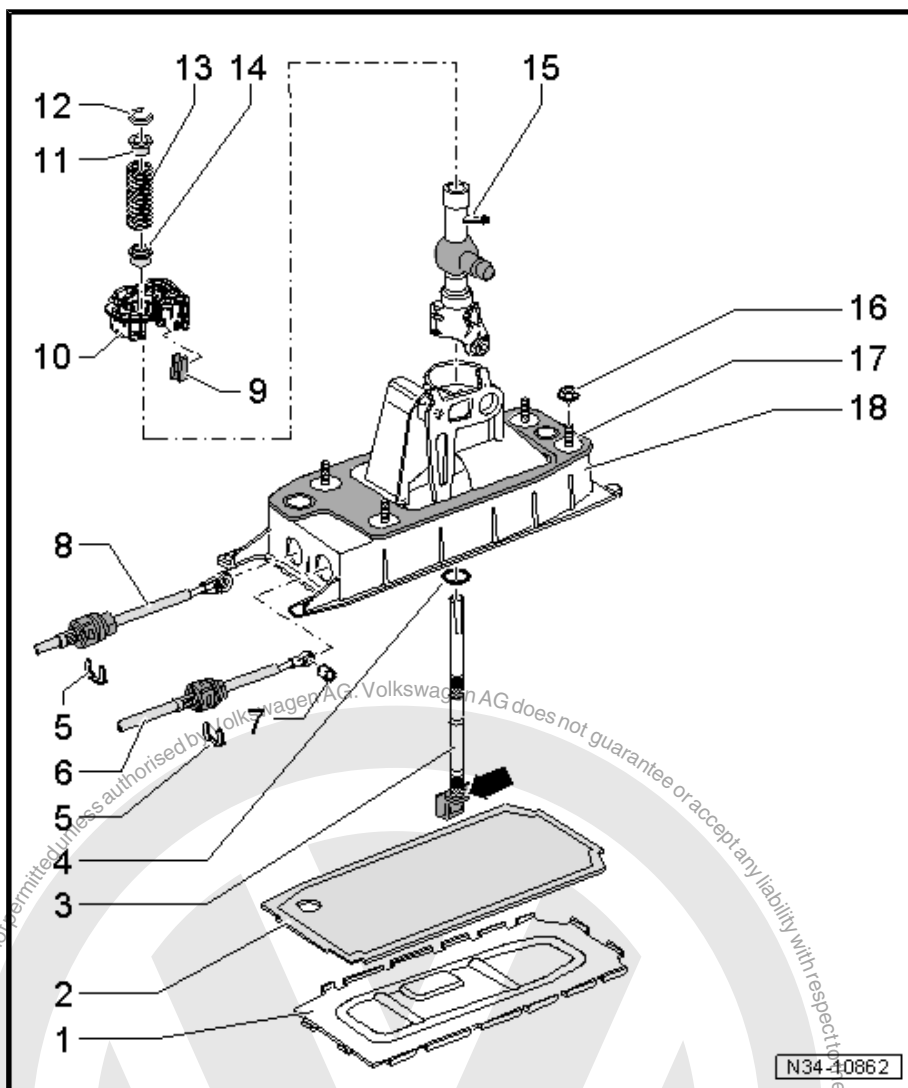
13 - Pressure Spring

14 - Bushing

15 - Gearshift Lever Guide

16 - Nut

- ☐ M 8: 25 Nm
- ☐ M 6: 8 Nm
- ☐ Quantity: 4





17 - Seal

- ☐ Between the gearshift housing and the underbody
- ☐ Self-adhesive
- ☐ Affix to the gearshift housing

18 - Gearshift Housing

- ☐ with spring and selector bracket
- ☐ Spring and selector bracket cannot be removed

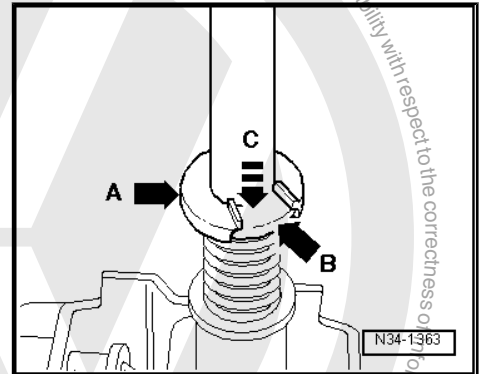
Removing and Installing the Lock Washer

- Push the spacer bushing -arrow B- all the way in direction of -arrow C- and remove or install the lock washer -arrow A-.



Note

- ◆ Do not tilt the bushing when pushing it down.
- ◆ The slot in the lever for the circlip must be visible.
- ◆ Carefully release the tension on the spring.



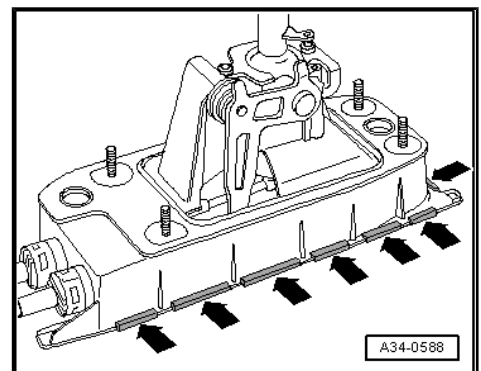
1.6.2 Selector Mechanism, Disassembling and Assembling

Special tools and workshop equipment required

- ◆ Window Release Tool - T10236-
- ◆ Press Piece - Multiple Use - VW412-
- ◆ Over-Center Spring Assembly Tool - T10178- or flat iron, 200 x 25 x 5 mm
- ◆ Engine Support Bridge - Engine Support 25 - 10-222A/25- or flat iron, 350 X 30 X 5 mm
- ◆ Puller - Counterstay - 22/4-
- ◆ Wedge - T10357-
- ◆ Press Piece - Block - T10083-
- ◆ Allocate the grease for gearshift mechanism. Refer to the Parts Catalog.

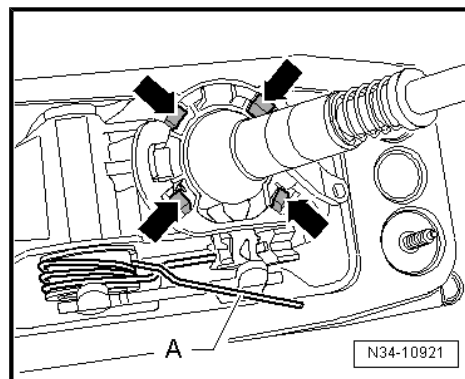
Disassembling

- Remove the selector mechanism. Refer to [⇒ "1.8 Selector Mechanism, Removing and Installing", page 70](#).
- Bend up the tabs -arrows- on the shift mechanism base plate using a screwdriver and remove the base plate. Only the straps on the left side of the base plate are shown in the illustration.
- Remove the seal from the shift housing.
- Remove the shift cable and the selector cable from the shift housing. Refer to [⇒ "1.9 Gearshift Cable and Selector Cable, Removing and Installing", page 75](#).

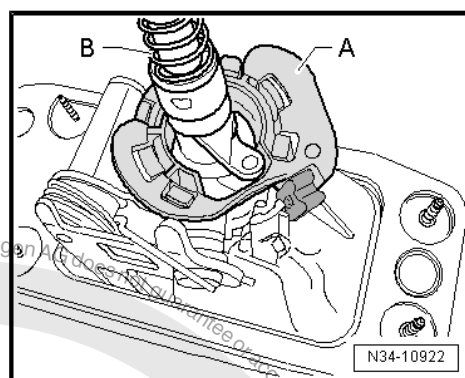




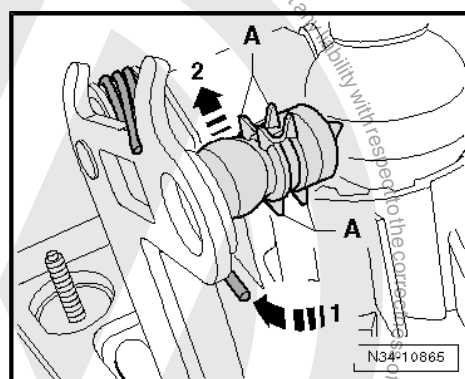
- Lift the upper end -A- of the pressure spring over the tab on the selector bracket.
- Using a screwdriver, press bearing shell notches -arrows- in direction of shift lever guide bearing; break of notches if necessary.



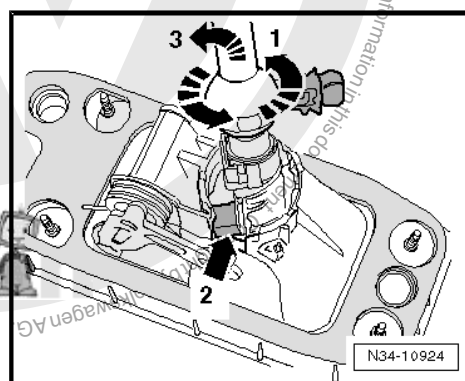
- Pry out bearing shell -A- with shift lever guide -B- from selector housing.
- Then press bearing shell off shift lever guide bearing and remove.



- Pay attention to the guides -A- in the next work procedure.
- They must not break off.
- Lift the bottom end -arrow 1- of the pressure spring onto shoulder on selector bracket.
- Now raise shift lever guide up as far as stop and remove ball studs from selector bracket -arrow 2-.



- Turn the shift lever guide in direction of -arrow 1-.
- The pins -arrow 2- must be in the shift housing opening.
- Move the gearshift lever guide and the gearshift lever in the direction of -arrow 3-.





Assembling



Caution

The lower side of the spring -arrow 1- can spring down uncontrolled from the selector bracket shoulder during subsequent handling.

- Push the lower end carefully from the selector bracket shoulder.

The spring sides then twist “diagonally” with a loud noise.

- Release the tension on the ends -A and B- by turning both ends to the right.
- the ends -A and B- must face in the opposite direction.

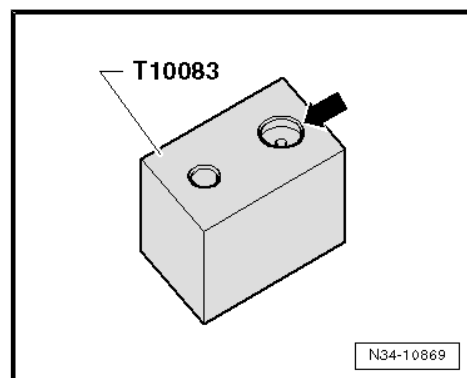
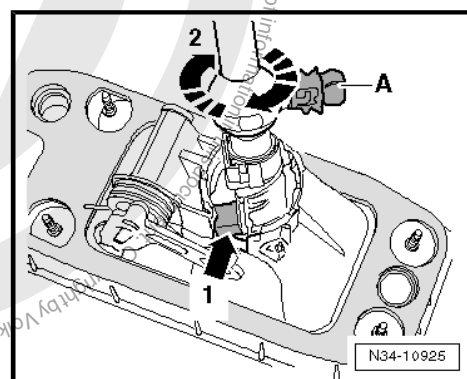
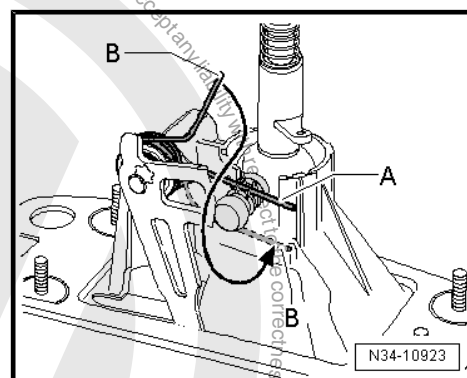
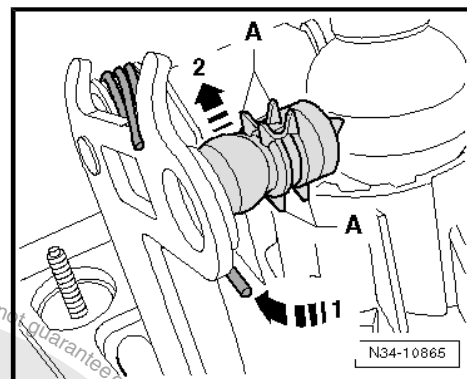
- Install the shift lever guide into the shift housing.
- The pins -arrow 1- are still located in the shift housing opening.
- Turn the shift lever guide in direction of -arrow 2- until the ball stud -A- is above the opening in the shift housing.

- Place the shift housing with the shift lever guide into the larger cavity -arrow- in the Press Piece - Block - T10083- .



Note

The selector shaft must be removed in order to insert the shifter housing with the selector shaft guide into the Pressing Support .





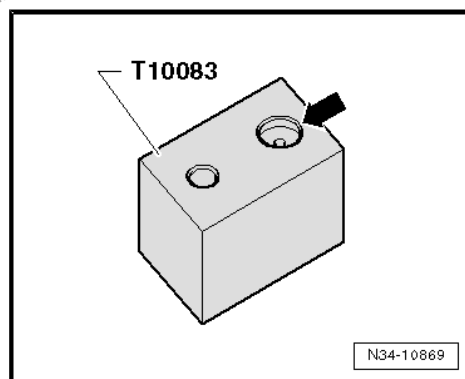
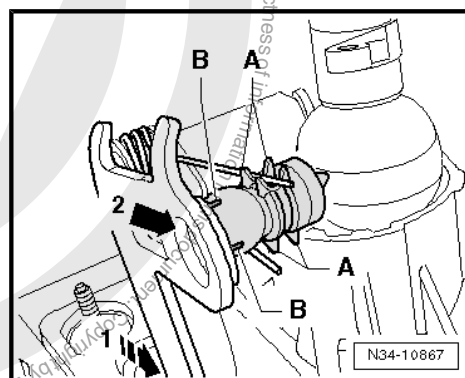
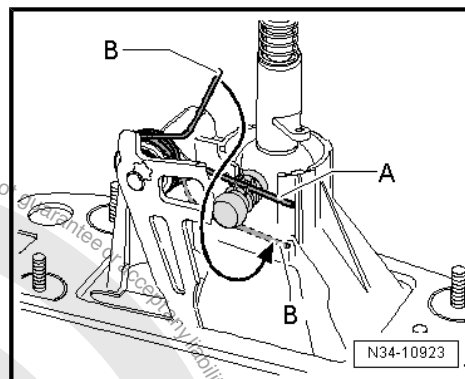
- The shift lever guide must project out of selector housing as far as stop.



Note

The selector bracket is only partially shown to provide a better illustration.

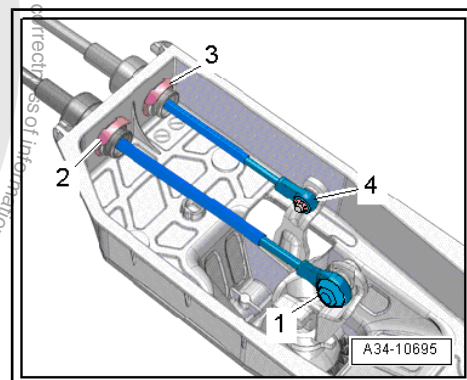
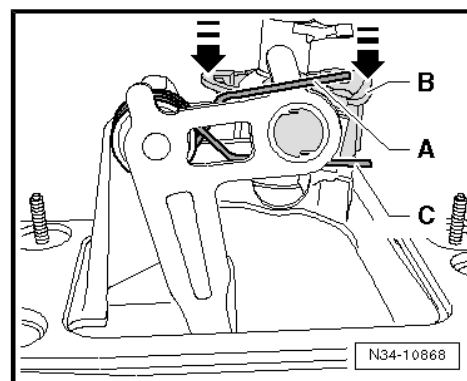
- Insert the end -A- of the pressure spring into the guide from the top.
- Pull the end -B- of the pressure spring downward and insert it next to the guide (toward the ball head).
- Pay attention to the guides (see upper illustration) in the next work procedure.
- They must not break off.
- Carefully remove the shift housing and shift lever guide from the Press Piece - Block - T10083- .
- Move the selector bracket all the way to the rear opposite mounting holes for shift and selector cable -arrow 1-.
- Grease the ball stud.
- Press the ball stud into the selector bracket -arrow 2-.
- The guides -A- and the tabs -B- must not be damaged.



- Place the shift housing with the shift lever guide into the larger cavity -arrow- in the Press Piece - Block - T10083- .



- The shift lever guide must project out of selector housing as far as stop.
- Pry the upper end -A- of the pressure spring over the pin on the selector bracket.
- Use a new bearing shell -B-.
- Grease the bearing shell and the shift lever guide bearing.
- Press the bearing shell all the way onto the shift lever guide bearing.
- Remove the shift housing from the Press Piece - Block - T10083- .
- Insert the bottom end -C- of the pressure spring into the guide.
- Pry the upper end -A- of the pressure spring over the pin on the selector bracket.
- Push the bearing shell into the shift housing -arrows-.
- All retaining tabs must engage.
- If equipped install the shift lever in the shift housing.
- Secure the shift cable and selector cable on the shift housing with lock washers -2 and 3- and -3-.
- Install the shift cable -1- on the gearshift lever and selector cable -4- on the selector lever inside the shift housing.





Base Plate, Attaching to Gearshift Housing

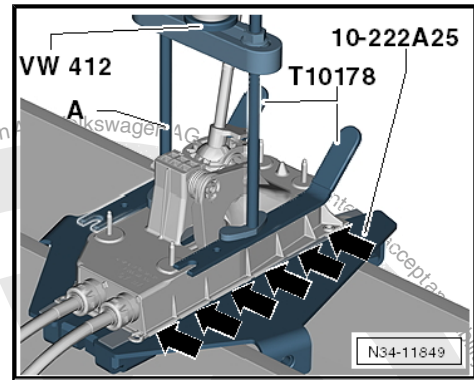
- Install a new seal -item 2- ➔ [Item 2 \(page 60\)](#) on the base plate.



Caution

There is a danger of causing damage to the gearshift housing and base plate.

Tension the gearshift housing only slightly.



- Bend the tabs -arrow- back over all around the base plate to secure it (only the tabs on the left side of the base plate are shown in the illustration).



Note

- ♦ *If only one Over-Center Spring Assembly Tool - T10178- is available, instead of a second Over-Center Spring Assembly Tool - T10178- the Toothed Belt Tensioner - T10020- can be used.*
- ♦ *A 200 x 25 x 5 mm flat iron can be used in place of an Over-Center Spring Assembly Tool - T10178- .*
- ♦ *A 350 X 30 X 5 mm flat iron can be used in place of an Engine Support Bridge - Engine Support 25 - 10-222A/25- .*
- The tabs can be bent back over using the Wedge - T10357- .
- A- = Puller - Counterstay - 22/4-
- Glue a new seal on the gearshift housing .
- Install the gearshift mechanism. Refer to ➔ [“1.8 Selector Mechanism, Removing and Installing”, page 70](#) .

1.7 Overview - Operating Cables



Note

Lubricate the bearing areas and the sliding surfaces. Refer to the Parts Catalog for the grease allocation.



1 - Gearshift Cable

- ☐ Attach to the cable re-tainer -item 11-
⇒ [Item 11 \(page 68\)](#) .
- ☐ Installation position. Refer to
⇒ ["1.1 Shift Mechanism Installation Position", page 52](#) .
- ☒ from 11/2006 changed fastener on shift lever inside shift mechanism -item 8-
⇒ [Item 8 \(page 60\)](#)

2 - Selector Cable

- ☐ Attach to the cable re-tainer -item 10-
⇒ [Item 10 \(page 67\)](#) .
- ☐ Installation position. Refer to
⇒ ["1.1 Shift Mechanism Installation Position", page 52](#) .
- ☒ from 11/2006 changed fastener on selector bracket inside shift mechanism -item 6-
⇒ [Item 6 \(page 60\)](#)

3 - Lock Washer

- ☐ Replace after removing

4 - Gearshift Housing

5 - Lock Washer

- ☐ Replace after removing
- ☐ Be careful not to damage the cables when removing them

6 - Hex Bolt

- ☐ 20 Nm
- ☐ Quantity: 3
- ☐ for the cable bracket

7 - Cable Bracket

- ☐ can be made of plastic or metal

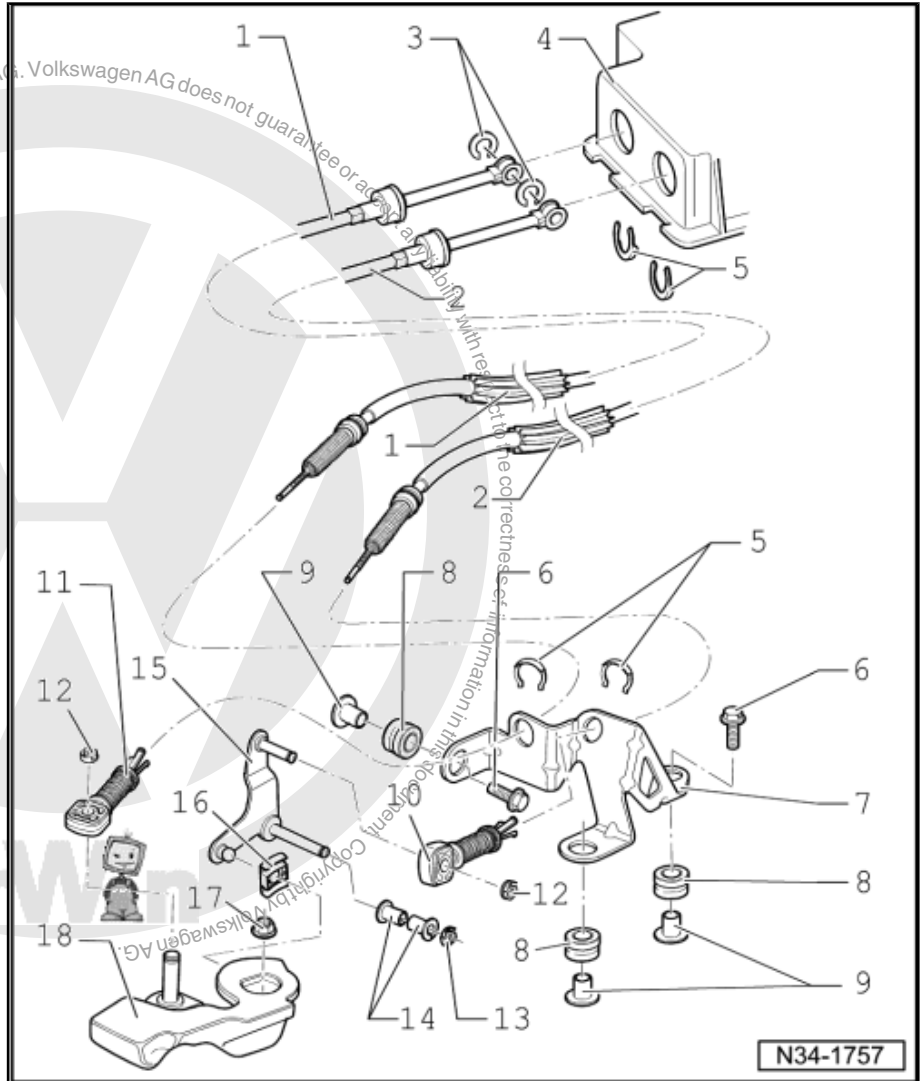
8 - Grommet

- ☐ cable mounting bracket to transmission

9 - Spacer

10 - Cable Retainer

- ☐ Adjust the gearshift mechanism after installing. Refer to
⇒ ["1.10 Selector Mechanism, Adjusting", page 76](#) .
- ☐ For attaching the selector cable to the relay lever
- ☐ Do not interchange, cable locking mechanisms for selector cable on linkage lever and for shift cable on transmission shift lever are different
- ☐ Is secured with a lock washer in the case of the metal relay lever -item 12- ⇒ [Item 12 \(page 68\)](#)
- ☐ From 05/2007 installed in with the plastic relay lever. Refer to ⇒ ["1.11 Plastic Relay Lever", page 78](#) .
- ☐ Removing from Plastic Relay Lever. Refer to ⇒ ["1.11 Plastic Relay Lever", page 78](#)
- ☐ Installing on Plastic Relay Lever. Refer to ⇒ ["1.11 Plastic Relay Lever", page 78](#)





- ☐ Allocation. Refer to ➤ [Fig. "Cable Retainer Allocation", page 69](#) .

11 - Cable Retainer

- ☐ Adjust the gearshift mechanism after installing. Refer to ➤ ["1.10 Selector Mechanism, Adjusting", page 76](#) .
- ☐ For attaching the shift cable to the transmission shift lever
- ☐ Do not interchange, cable locking mechanisms for selector cable on linkage lever and for shift cable on transmission shift lever are different
- ☐ Allocation. Refer to ➤ [Fig. "Cable Retainer Allocation", page 69](#) .

12 - Lock Washer

- ☐ Replace after removing
- ☐ Not needed for the plastic relay lever

13 - Lock Washer

- ☐ Replace after removing
- ☐ Not needed for the plastic relay lever

14 - Bearing Bushing

- ☐ Not needed for the plastic relay lever

15 - Relay Lever

- ☐ Installation position. Refer to ➤ [Fig. "Selector lever/relay lever installed position", page 70](#) .
- ☐ Adjust the gearshift mechanism after installing. Refer to ➤ ["1.10 Selector Mechanism, Adjusting", page 76](#) .
- ☐ can be made of plastic or metal
- ☐ Install the metal relay lever into the bushings -item 14- ➤ [Item 14 \(page 68\)](#) and secure it with a lock washer -item 13- ➤ [Item 13 \(page 68\)](#) .
- ☐ from 05/2007 plastic relay lever
- ☐ Relay Lever and Cable Retainer, Removing and installing. Refer to ➤ ["1.11 Plastic Relay Lever", page 78](#)
- ☐ The bushings and lock washers are not needed with the plastic relay lever
- ☐ To install, lubricate. Refer to ➤ [Fig. "Lubricating the Relay Lever", page 70](#)

16 - Sliding Shoe

17 - Hex Nut

- ☐ 23 Nm
- ☐ Self-locking
- ☐ Replace after removing

18 - Selector Lever

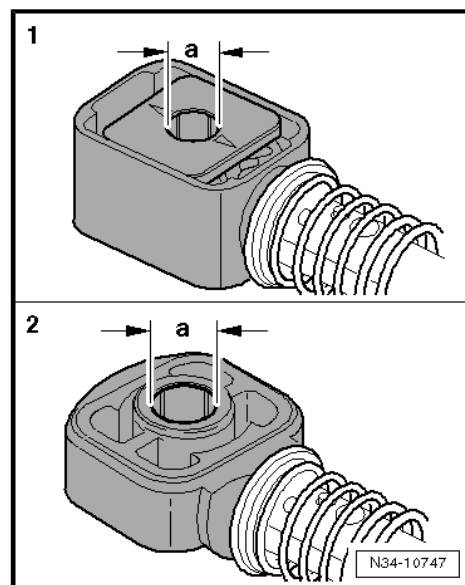
- ☐ Installing. Refer to ➤ [Fig. "Installing the transmission shift lever", page 69](#) .
- ☐ Installation position. Refer to ➤ [Fig. "Selector lever/relay lever installed position", page 70](#) .
- ☐ Adjust the gearshift mechanism after installing. Refer to ➤ ["1.10 Selector Mechanism, Adjusting", page 76](#) .
- ☐ As of 06/2006 smaller bolt diameter for the cable retainer. Refer to ➤ [Fig. "As of 06/2006, smaller bolt diameter for the shift cable retainer.", page 69](#)
- ☐ To install, lubricate. Refer to ➤ [Fig. "Lubricating the Gearshift Lever", page 70](#)



Cable Retainer Allocation

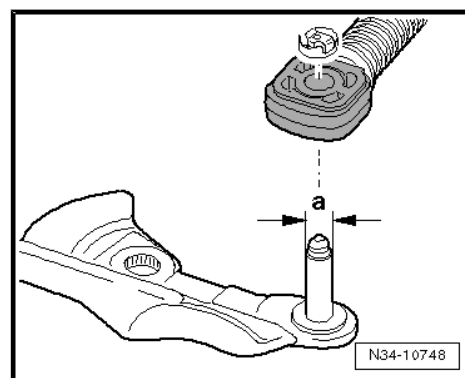
These holes have different diameters.

Cable retainer for:	Dimension "a"
1. - gearshift cable to gearshift lever from 06/2006	8.5 mm
2. - gearshift cable to gearshift lever to 05/2006	10 mm
2. - selector cable to metal relay lever	8 mm
2. - selector cable to plastic relay lever. Refer to ➔ "1.11 Plastic Relay Lever", page 78	10 mm



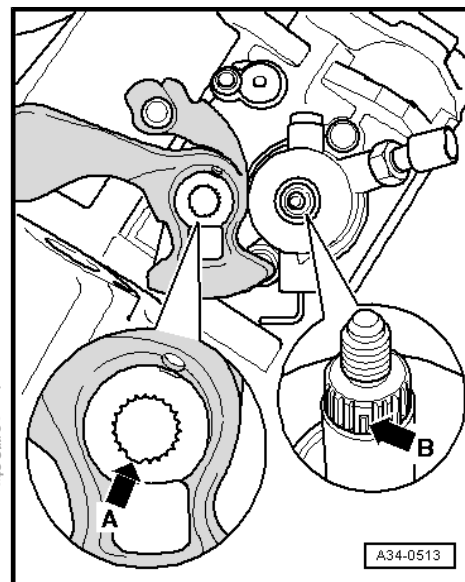
As of 06/2006, smaller bolt diameter for the shift cable retainer.

Mounting pin for gearshift cable retainer	Dimension "a"
through 05/2006	10 mm
from 06/2006	8.5 mm



Installing the transmission shift lever

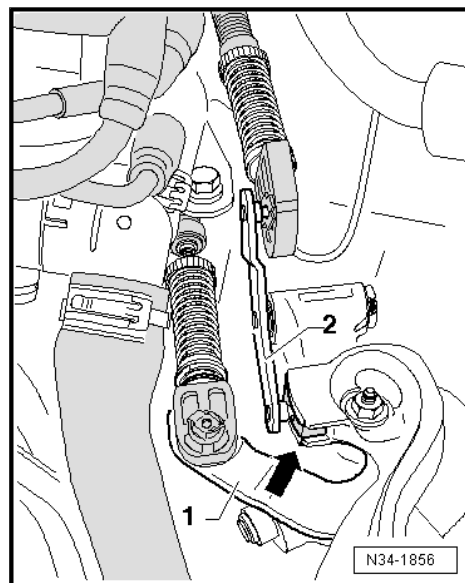
- When positioning the transmission shift lever, make sure the tooth gap -arrow A- is placed over the missing selector shaft teeth -arrow B-.
- Tighten the nut to the tightening specification -item 17- ➔ [Item 17 \(page 68\)](#).





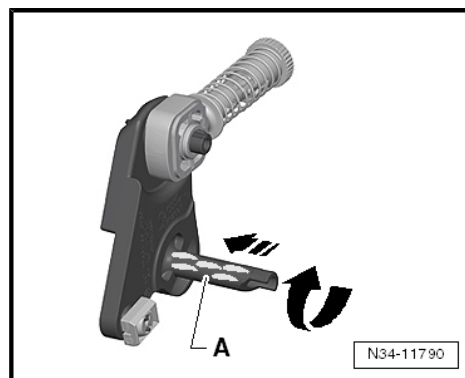
Selector lever/relay lever installed position

- 1 - Selector Lever
- 2 - The relay lever grips into the sliding rail on the gearshift lever via the sliding shoe -arrow-.



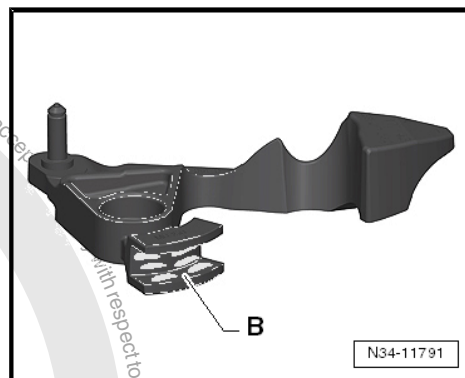
Lubricating the Relay Lever

- Lubricate the shaft -A- on the relay lever carefully -arrows- with 0.2 g.
- Refer to the Parts Catalog for the grease allocation.



Lubricating the Gearshift Lever

- Lubricate the selector lever glide track -B-, into which the relay lever engage, especially carefully.
- Refer to the Parts Catalog for the grease allocation.



1.8 Selector Mechanism, Removing and Installing

⇒ ["1.8.1 Removing", page 70](#)

⇒ ["1.8.2 Installing", page 73](#)

1.8.1 Removing

Special tools and workshop equipment required

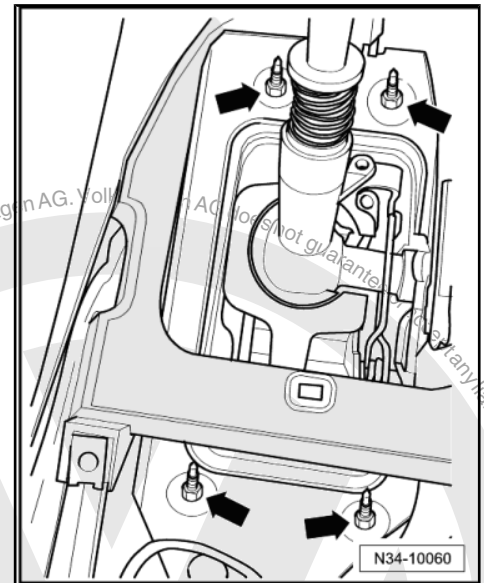
- ♦ Torque Wrench 1331 5-50Nm - VAG1331-
- ♦ Allocate the grease for gearshift mechanism. Refer to the Parts Catalog.



- Determine whether a coded radio is installed. If so, obtain the anti-theft code.

Disconnect the battery ground cable. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

- Remove the boot with the shifter knob and noise insulation. Refer to ⇒ [“1.4 Boot with Shifter Knob and Noise Insulation, Removing and Installing”, page 55](#) .
- Remove the center console and the center console securing bracket. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console .
- Remove the nuts -arrows-.
- Remove the air filter housing if it is located over the gearshift mechanism. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .

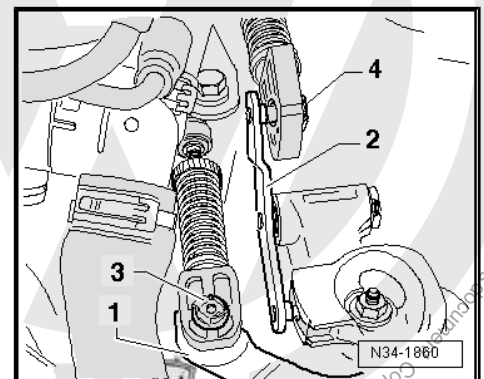


- Remove the gearshift cable lock washer -3- from the gearshift lever -1-.
- Remove the shift cable from the pins.

Metal Relay Lever

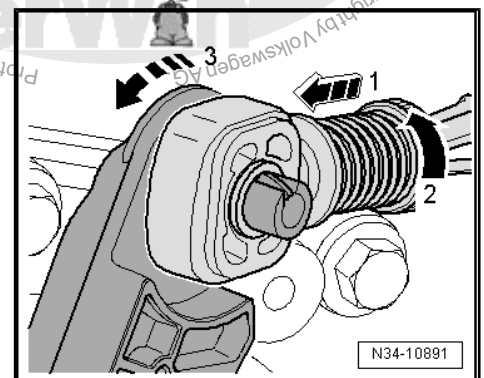
- Remove the selector cable circlip -4- from the relay lever -2-.
- Remove the selector cable from the pins.

Plastic Relay Lever



Disconnecting the Cable Retainer from the Selector Cable

- Pull the securing mechanism all the way forward in direction of -arrow 1- and then unlock to the left in direction of -arrow 2-.
- Push the relay lever forward (direction of -arrow 3-).
- The relay lever and the cable retainer must be removed together. Refer to ⇒ [“1.11 Plastic Relay Lever”, page 78](#) .



Continuation for all Shift Mechanisms



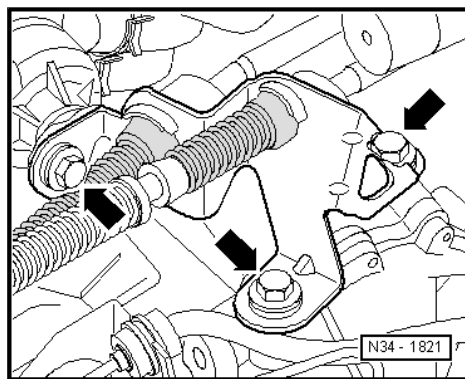
- Remove the cable bracket from the transmission -arrows-, if necessary, unclip the hose/line assembly.
- Remove the noise insulation. Refer to ➤ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Remove the tunnel braces. Refer to ➤ Body Exterior; Rep. Gr. 50 ; Tunnel Brace .



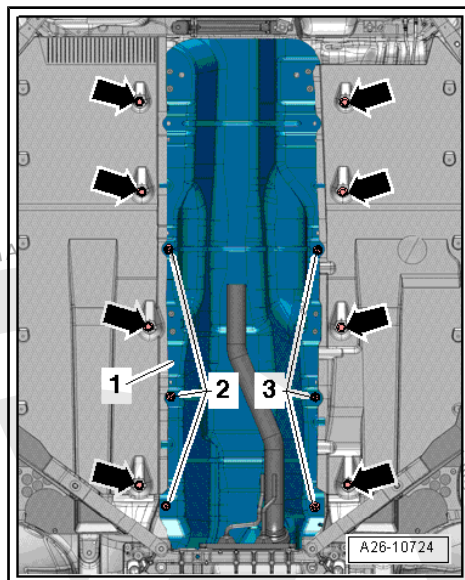
Caution

Risk of damaging the decoupling element.

- ◆ ***Do not bend the decoupling element more than 10°.***
- ◆ ***Do not load the decoupling element.***
- ◆ ***Do not damage the wire mesh on the decoupling element.***



- Separate the front exhaust system front section at the double clamp and remove it from the subframe. Refer to ➤ Rep. Gr. 26 .
- Disengage exhaust system rear section and secure to the body using for example using a wire. Remove the exhaust system rear section, if necessary.
- Remove the underbody trim panel nuts -arrows-.
- Remove the lock washers -2 and 3-.
- Lower the underbody trim panel on the inside just enough until the heat shield -1- for the center tunnel can be removed.
- Pivot shift housing downward and remove with cables.

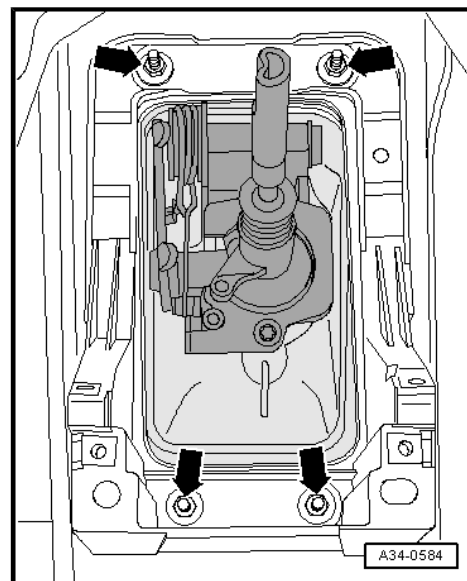




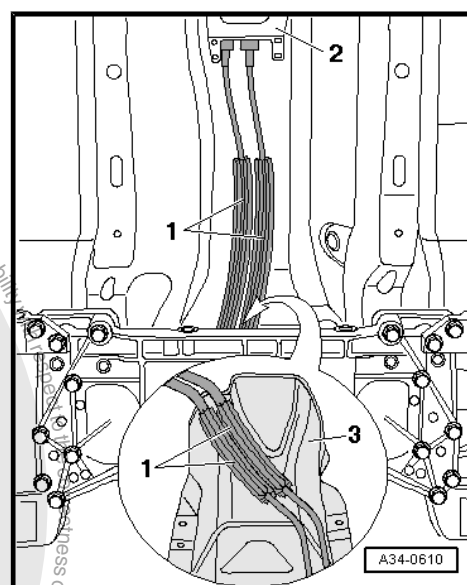
1.8.2 Installing

Install in reverse order of removal while. Note the following:

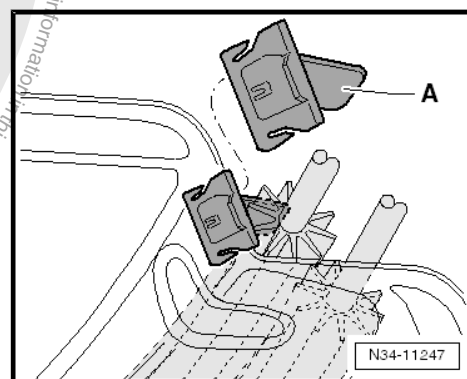
- Align the shift housing so that it is parallel to the body.
- The distance on both sides to the body must be equal.
- Tighten the nuts on the gearshift housing -arrows- -item 26- ➔ [Item 26 \(page 58\)](#) or -item 16- ➔ [Item 16 \(page 60\)](#) .



- Route the cables -1- from the gearshift mechanism -2- to the transmission as follows:
- The cables must run parallel to each other and must not cross each other.
- The cables must be routed inside the depression in the heat shield -3-.



A clip -A- holds the cables and heat shield to each other in place.

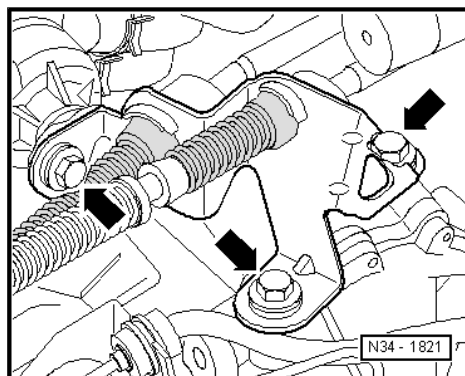




- Attach the cable mounting bracket to the transmission and tighten the bolts -arrows- -item 6- ➔ [Item 6 \(page 67\)](#) .

These holes have different diameters.

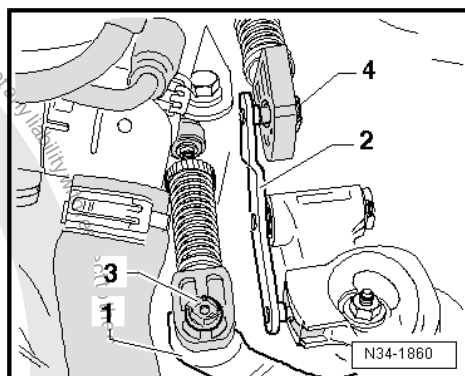
Allocation of cable retainers. Refer to
➔ [Fig. "Cable Retainer Allocation"](#) , page 69 .



- Apply a small amount of grease on the pins on the transmission shift lever -1- and on the relay lever -2-.
- Refer to the Parts Catalog for the grease allocation.
- Replace the lock washers -3- and the lock washer on metal relay lever -4- each time they are removed.
- Secure the shift cable with the lock washer -3- and selector cable with lock washer -4-.

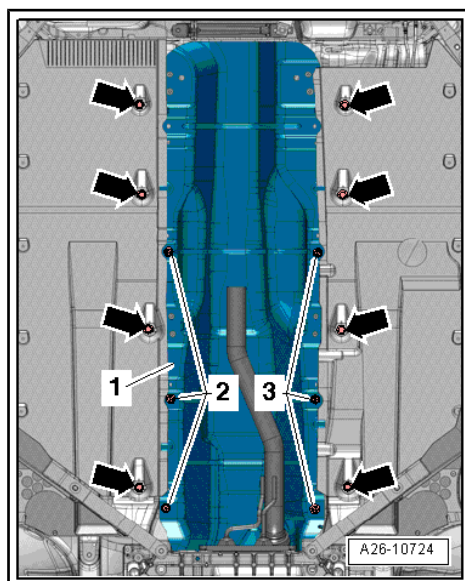
Cable retainer with plastic relay lever

- Install the relay lever together with the cable retainer. Refer to ➔ ["1.11 Plastic Relay Lever"](#) , page 78 .
- Install the selector cable in the cable retainer.



Continuation for all shift mechanisms

- Install the bracket and the center console. Refer to ➔ Body Interior; Rep. Gr. 68 ; Center Console .
- Install the boot with the selector knob and, if necessary, the noise insulation. Refer to ➔ ["1.4 Boot with Shifter Knob and Noise Insulation, Removing and Installing"](#) , page 55 .
- Install the heat shield -1- under the selector mechanism and attach with the lock washers -2 and 3-.
- Attach the underbody trim panel to the body -arrows- Refer to ➔ Body Exterior; Rep. Gr. 50 ; Underbody Trim Panels .
- Install the exhaust system and align free of tension. Refer to ➔ Rep. Gr. 26 .
- Install the tunnel braces under the exhaust system. Refer to ➔ Body Exterior; Rep. Gr. 50 ; Tunnel Brace .
- Adjust the gearshift mechanism. Refer to ➔ ["1.10 Selector Mechanism, Adjusting"](#) , page 76 .
- If removed, install the complete air filter housing. Refer to ➔ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Complete the steps after connecting the battery. Refer to ➔ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .





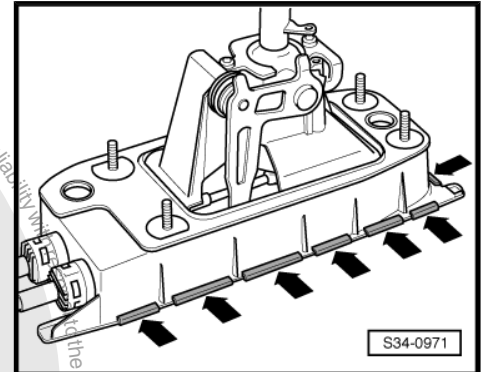
1.9 Gearshift Cable and Selector Cable, Removing and Installing

⇒ ["1.9.1 Removing", page 75](#)

⇒ ["1.9.2 Installing", page 76](#)

1.9.1 Removing

- Remove the selector mechanism. Refer to
⇒ ["1.8 Selector Mechanism, Removing and Installing", page 70](#).
- Bend up the tabs -arrows- on the shift mechanism base plate using a screwdriver and remove the base plate. Only the straps on the left side of the base plate are shown in the illustration.
- Remove the seal.



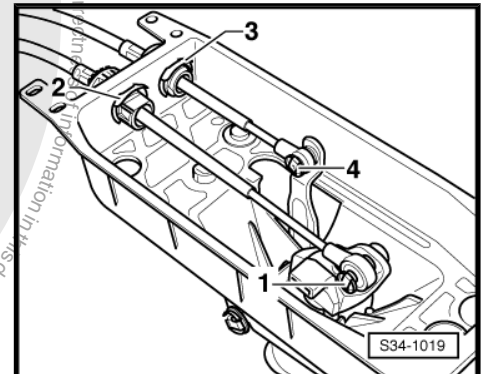
Remove the lock washers -1 through 4-.



Note

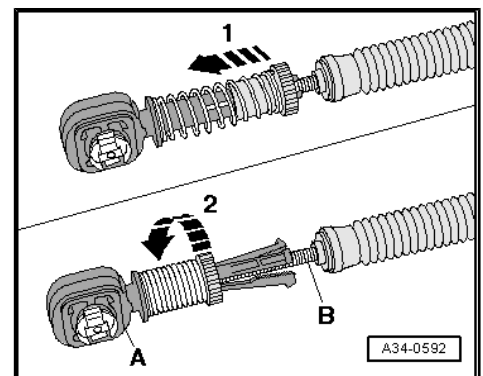
Lock washers -1 and 4- are no longer installed in shift mechanisms beginning in 11/2006.

- Pry off the shift cable (or the selector lever cable) from the gearshift lever (or selector lever) with a screwdriver.
- Remove the shift cable and selector cable from the shift housing.



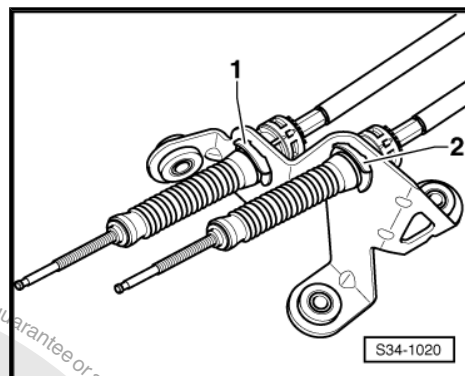
Release the retainers -A- for the shift and selector cables -B- as follows:

- ◆ Push the sleeve forward as far as it will go -arrow 1-.
- ◆ Turn the sleeve to the right as far as it will go -arrow 2- until it engages.
- Remove the retainers from the cables.





- Remove the lock washers -1 and 2-.
- Remove the cable bracket from the cables.



1.9.2 Installing

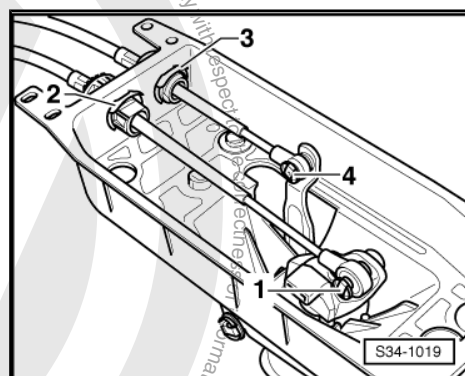
Install in reverse order of removal while. Note the following:

- Secure the shift cable and selector cable on the shift housing with lock washers -2 and 3-.
- Attach the shift cable and the selector cable to the gearshift lever and the selector lever inside the shift housing and secure it with lock washers -1 and 4-.

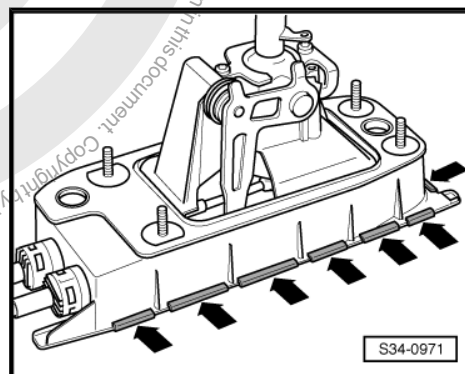


Note

Lock washers -1 and 4- are no longer installed in shift mechanisms beginning in 11/2006.



- Install the base plate with a new seal on the gearshift housing -arrows-. Refer to [⇒ Fig. “Base Plate, Attaching to Gearshift Housing”, page 66](#).
- Install the gearshift mechanism. Refer to [⇒ “1.8 Selector Mechanism, Removing and Installing”, page 70](#).
- Adjust the gearshift mechanism. Refer to [⇒ “1.10 Selector Mechanism, Adjusting”, page 76](#).



1.10 Selector Mechanism, Adjusting

[⇒ “1.10.1 Procedure”, page 76](#)

[⇒ “1.10.2 Function”, page 78](#)

1.10.1 Procedure

Special tools and workshop equipment required

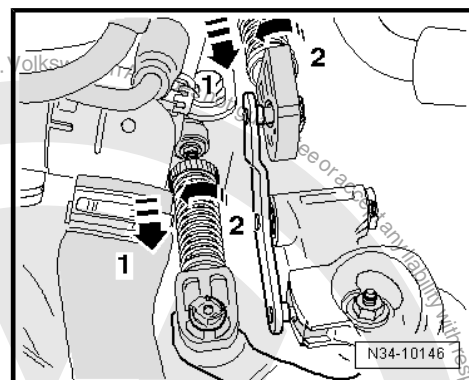
- ◆ Connecting Pin - T10027A-



Note

- ◆ *The following is important to make sure the gearshift adjustment is correct:*
- ◆ *Operating and transfer elements of shift mechanism must be in proper condition.*
- ◆ *Shift mechanism must move freely.*
- ◆ *The transmission, clutch and clutch mechanism must also be in proper condition.*

- Transmission in neutral.
- Remove the air filter housing if the bracket for the selector shaft and the securing mechanism for the shift and selector cables are not accessible. Refer to ➔ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Pull the safety mechanism on the cable retainer for the shift cable and the selector cable all the way forward in direction of -arrow 1- and then lock it to the left in direction of -arrow 2-

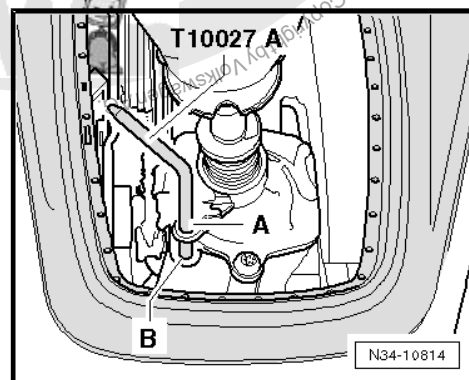
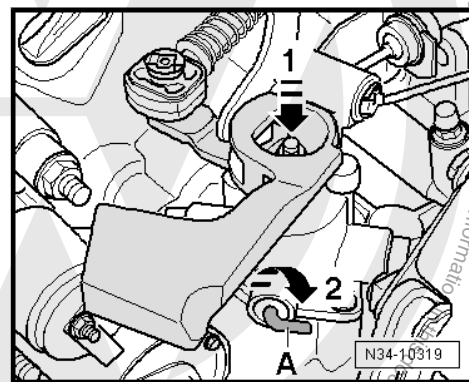


Secure the gearshift shaft as follows:

- Push the gearshift shaft down in direction of -arrow 1-.
- While press the gearshift shaft down, rotate the bracket -A- in direction of -arrow 2- upward and simultaneously press it in until it engages in the gearshift shaft.
- Remove the boot with the shifter knob and cover. Refer to ➔ ["1.4 Boot with Shifter Knob and Noise Insulation, Removing and Installing", page 55](#) .
- If equipped, remove the noise insulation.

Secure the gearshift shaft as follows:

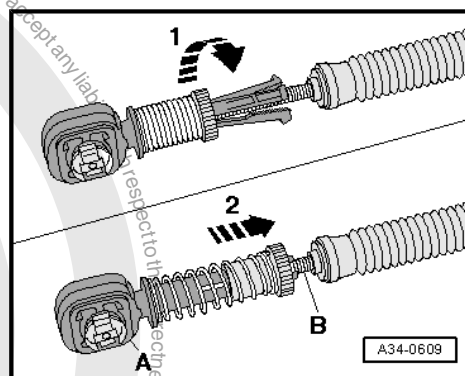
- Move the gearshift lever into neutral.
- Guide the Connecting Pin - T10027A- through the hole -A- and into the hole -B-.





- Make sure the selector and shift cables -B- are inserted into the retainer -A- without tension.
- Turn the safety mechanism on the cable retainer for the shift cable and selector cable all the way to the right in direction of -arrow 1-.

The spring will push the safety mechanism into the starting position in direction of -arrow 2-.

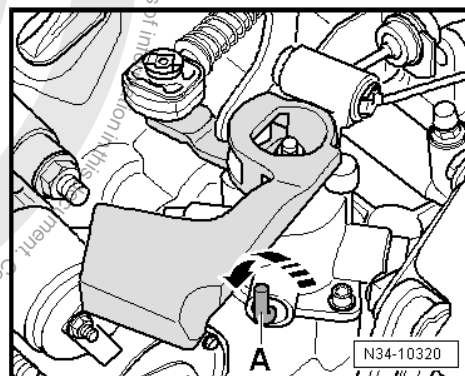


- Then turn the bracket -A- in direction of -arrow- back into its starting position.

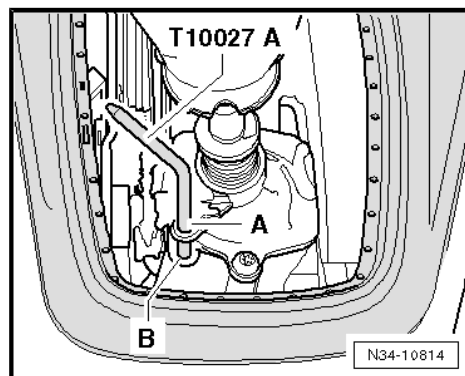


Note

The bracket -A- must be pushed out of the selector housing as far as the stop and it must face upward vertically.



- Pull the Mandrel out of the holes -A- and -B-.
- If equipped, install the noise insulation.
- Install the boot with the shifter knob and cover. Refer to ⇒ ["1.4 Boot with Shifter Knob and Noise Insulation, Removing and Installing", page 55](#) .
- Make sure the gearshift shaft moves easily.
- If removed, install the complete air filter housing. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .



1.10.2 Function

- The shift lever must rest in the 3rd/4th gear selector lever gate when the transmission is in neutral.
- Operate the clutch.
- Move the gearshift lever (selector lever) several times through all the gears. Pay particular attention to the operation of the reverse gear lock.
- Should a gear fail to engage smoothly after engaging it repeatedly, adjust the gearshift mechanism again. Refer to ⇒ ["1.10 Selector Mechanism, Adjusting", page 76](#) .

1.11 Plastic Relay Lever

A plastic relay lever is installed from 05/2007. Two versions may be installed.

- ◆ Relay lever with tab or
- ◆ Relay lever with clip

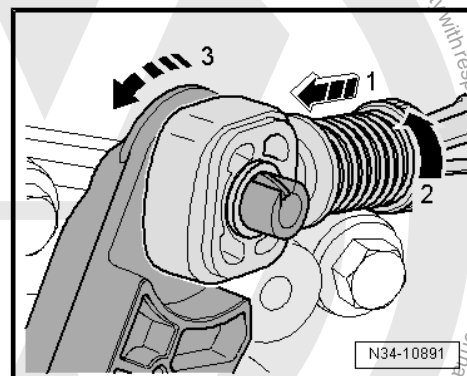
Note the following when removing and installing:



- To remove the relay lever, it is necessary to remove the cable retainer from the selector cable.

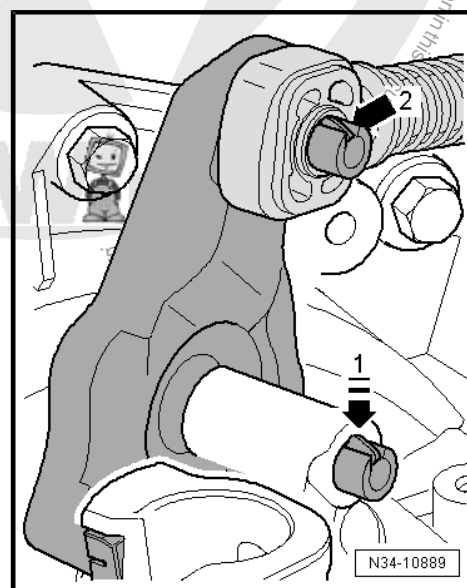
This prevents damage to the selector cable.

- Pull the securing mechanism all the way forward in direction of -arrow 1- and then unlock to the left in direction of -arrow 2-.
- Push the relay lever forward (direction of -arrow 3-).



Relay Lever with Tab -arrow 1-

- Push the catch -arrow 1- all the way down and remove the relay lever and cable retainer. Move the relay lever in its operating direction.



Relay Lever with Clip -arrow 1-.

- Remove the clip -arrow 1- and then remove the relay lever and the cable retainer.

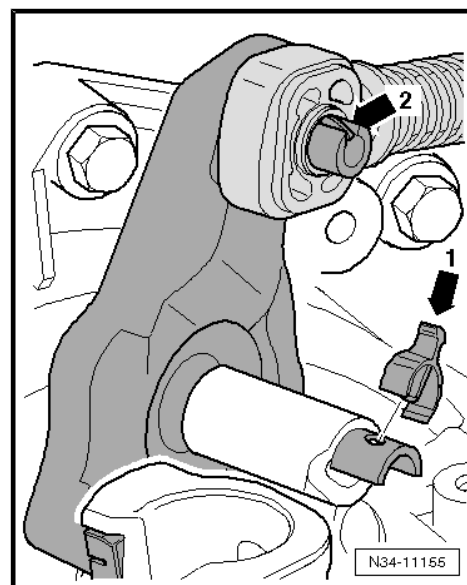
Continuation for All

- The cable retainer must be behind the catch -arrow 2-.
- The cable retainer may only be removed with the relay lever removed. Refer to [Fig. "Removing the Selector Cable Retainer from the Plastic Relay Lever.", page 80](#).



Note

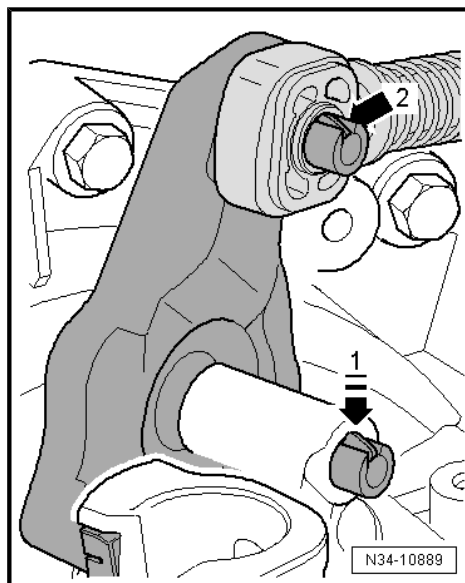
- ◆ *Lubricate the bearing areas and sliding surfaces when installing.*
- ◆ *Refer to the Parts Catalog for the grease allocation.*
- Press the cable retainer on the relay lever. Refer to [Fig. "Installing the Cable Retainer", page 81](#).
- Insert the relay lever together with the cable retainer as far as the stop.





Relay Lever with tab -arrow 1-

- The catch -arrow 1- secures the relay lever.
- Make sure it engages securely.
- The cable retainer must be behind the catch -arrow 2-.



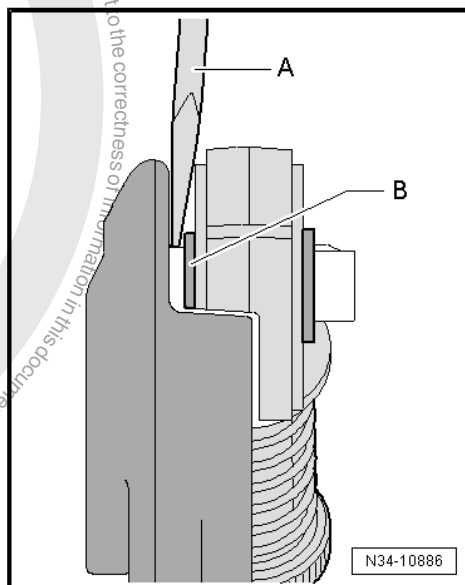
Relay Lever with Clip -arrow 1-.

- The clip -arrow 1- secures the relay lever.
- Make sure the clips locks securely.
- The cable retainer must be behind the catch -arrow 2-.



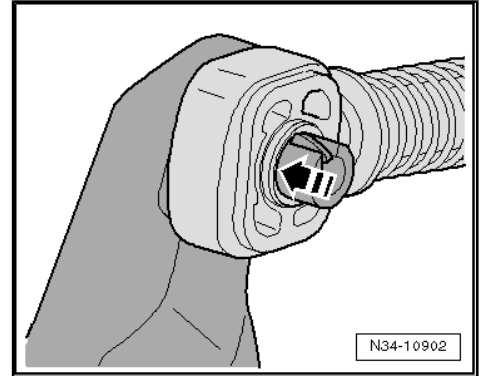
Removing the Selector Cable Retainer from the Plastic Relay Lever.

- The relay lever is removed.
- Insert a screwdriver -A- between the bushing -B- and the relay lever.

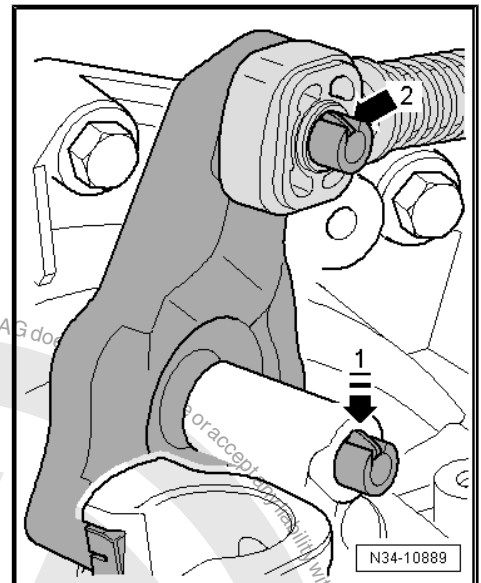




Installing the Cable Retainer



- The relay lever is removed.
- The cable retainer may only be installed at the bushing -arrow-.
- The cable retainer must move freely on the relay lever.
- It must be behind the tab -arrow 2-.



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2 Transmission, Removing and Installing, Jetta from MY 2005 , Golf Wagon from MY 2007 and Golf Wagon from MY 2010

⇒ **"2.1 Transmission, Removing" page 82**

⇒ **"2.2 Transmission, Installing" page 87**

⇒ **"2.3 Tightening Specifications", page 94**

2.1 Transmission, Removing

Special tools and workshop equipment required

- ◆ Engine Support Bridge - 10-222A-
- ◆ Engine Support Bridge - Engine Support Feet - 10-222A/8-
- ◆ Engine/Gearbox Support Shackle (2 pc.) - 10-222A/12-
- ◆ Transmission Support Jig - 3336-
- ◆ Transmission Support - 3282-
- ◆ Support Elements for transmission (determine when mounting the Mounting Plate on the Transmission Support)
- ◆ Transmission Support - Mounting Plate 31 - 3282/31-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-
- ◆ Engine and Gearbox Jack - VAS6931-
- ◆ Grease for Clutch Disc Shaft Splines - G 000 100-
- ◆ Allocate the grease for gearshift mechanism. Refer to the Parts Catalog.
- Determine whether a coded radio is installed. If so, obtain the anti-theft code.

Disconnect the battery ground cable. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

- Remove the engine cover, if the engine lifting eyes for the Engine Support Bridge - 10-222A- are not accessible.
- Remove the air filter housing if it is located above the transmission. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .



- Remove the shift cable lock washer -arrow 1- from the gear-shift lever -A-.
- Remove the shift cable from the pins.

Metal Relay Lever

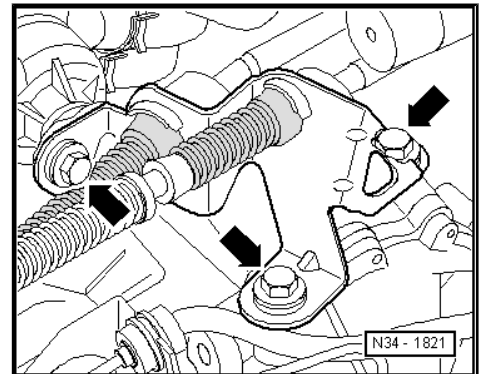
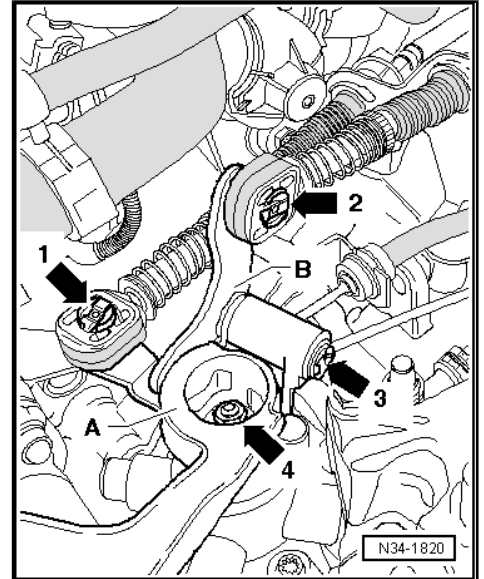
- Remove the selector cable circlip -2- from the relay lever -B-.
- Remove the selector cable from the pins.
- Remove the lock washer -arrow 3- from the relay lever -B- and then remove the relay lever.

Plastic Relay Lever

- Remove the relay lever together with the cable retainer. Refer to ➤ [“1.11 Plastic Relay Lever”, page 78](#) .

Continuation for All

- Remove the nut -arrow 4- and then remove the transmission shift lever -A-.
- Remove the cable bracket from the transmission -arrows-.
- Tie up the shift cable and the selector cable.

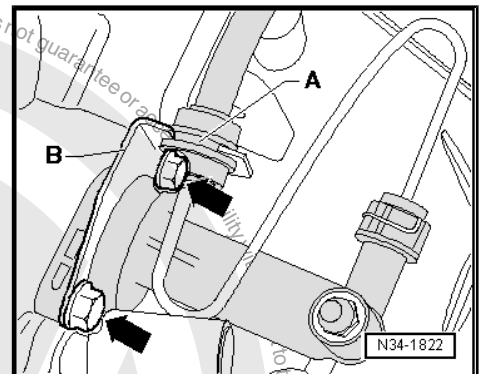


- Remove the hose/line assembly -A- from the bracket -B- on the transmission.
- Remove clutch slave cylinder -arrows- and lay aside, secure with wire, do not open wiring system.



Caution

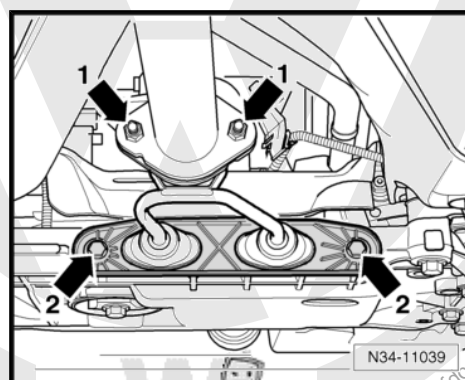
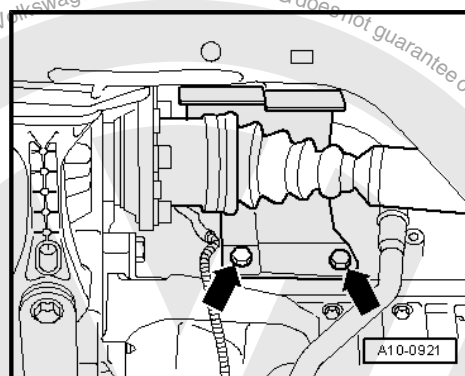
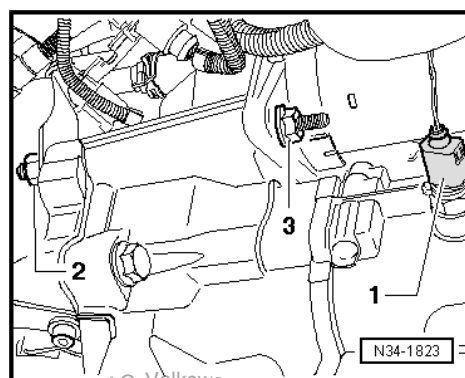
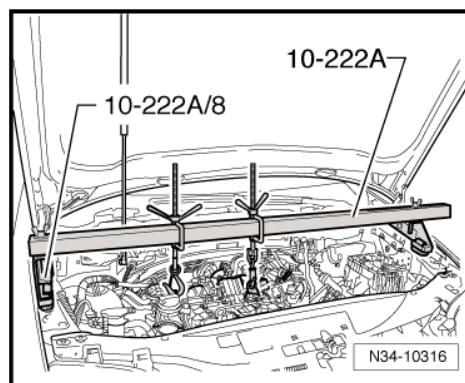
Do not press the clutch pedal anymore.



- Disconnect the ground cable from the upper engine/transmission bolt.
- Remove the upper engine/transmission bolts.
- Remove the upper bolt from the starter.
- Remove the left and right foam pieces from the upper edge of the fender. Refer to ➤ Body Exterior; Rep. Gr. 50 ; Fender .

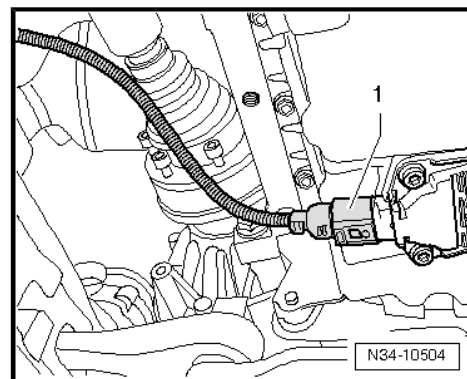


- Place the Engine Support Bridge - 10-222A- with the Engine Support Bridge - Engine Support Feet - 10-222A/8- in front of the hood gas struts.
- Preload the engine/transmission subassembly slightly using the spindle.
- Raise the vehicle.
- Remove the noise insulation. Refer to ➤ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Remove the lower part of the left front wheel housing liner. Refer to ➤ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner .
- Disconnect the connector -1- from the Back-Up Lamp Switch - F4- .
- If a nut -2- is installed, it must be removed now.
- Remove the starter (bolt -3-). Refer to ➤ Electrical Equipment; Rep. Gr. 27 ; Starter; Starter, Removing and Installing .
- If equipped, remove the driveshaft heat shield from the engine -arrows-.
- Separate the exhaust system -arrows 1- and remove the exhaust pipe bracket from the subframe -arrows 2-. Refer to ➤ Rep. Gr. 26 ; Exhaust System .

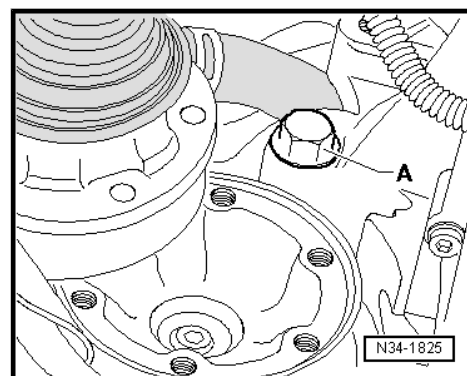




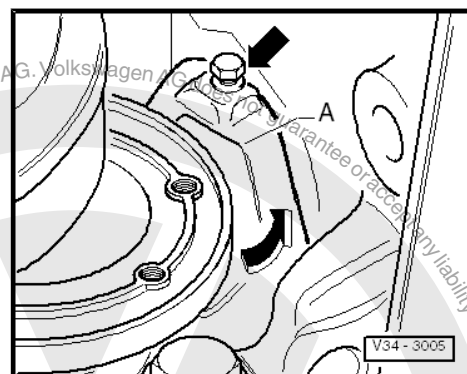
- Disconnect the connector -1- from the Oil Level Thermal Sensor - G266- .
- Remove the driveshafts from the flange shafts and tie them up as high as possible. Be careful not to damage the surface protection.



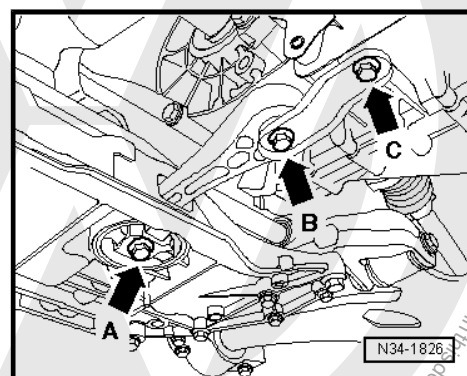
- Remove engine/transmission connecting bolt -A- near the right flange shaft.



- Check whether a cover plate -A- is installed above the right flange shaft.
- If equipped, remove the cover plate -A- -arrows-.



- Remove the pendulum support -arrows A, B and C-.





- Remove the left assembly mounting hex bolts -arrows- from the transmission mounting.
- Carefully move the engine/transmission subassembly into an angled position. To do so lower the engine/transmission assembly using the Engine Support Bridge - 10-222A- left spindle.



Note

Pay attention to all of the lines when lowering the transmission.

- Remove the transmission support from the transmission -arrows-.

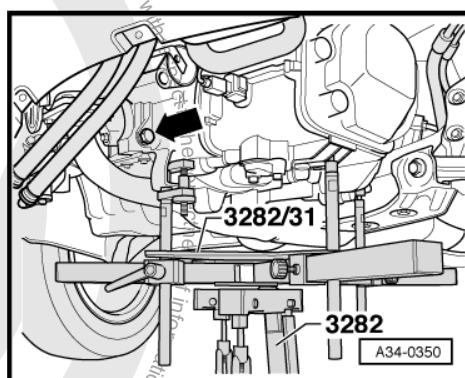
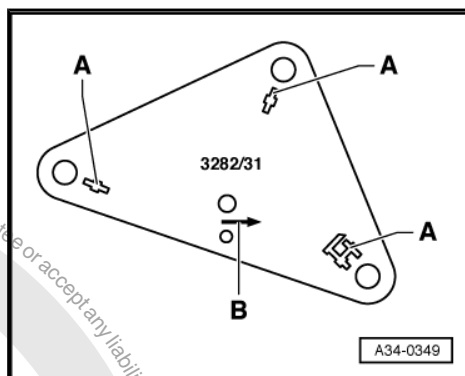
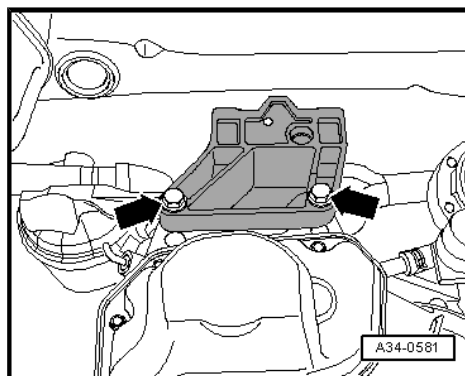
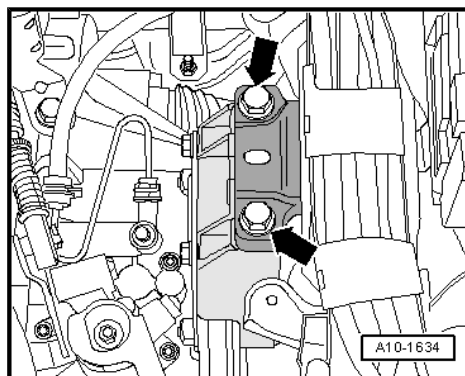
The Transmission Support - 3282- is aligned with the Transmission Support - Mounting Plate 31 - 3282/31- in order to remove the "0AF" transmission.

- Insert the Transmission Support - 3282- into the Engine and Gearbox Jack - VAS6931- .
- Align the arms of the Transmission Support so that they match up with the holes in the Adjustment Plate .

- Install the Support Elements -A- as illustrated on the Adjustment Plate .

- Position the Engine and Transmission Jack under the vehicle. The arrow symbol -B- on the Adjusting Plate points in the direction of travel.

- Align the Adjusting Plate so that it is parallel to the transmission and secure the safety support to the transmission.
- Remove the engine/transmission connecting bolt -arrow-.



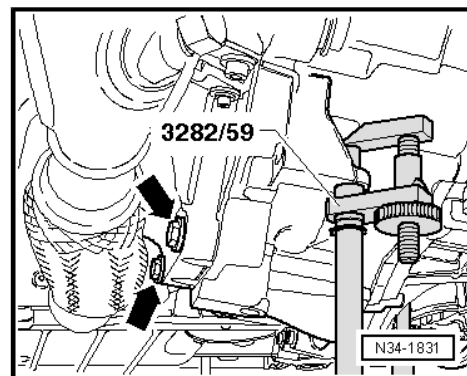


- Remove the engine/transmission connecting bolts -arrows- in the area around the oil pan.

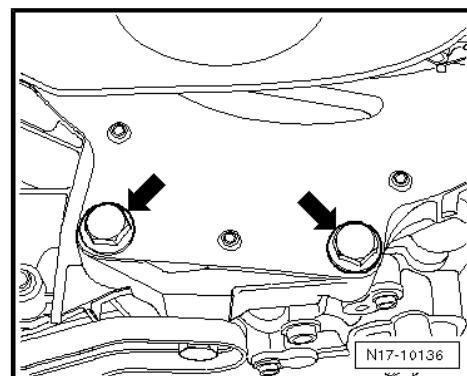


Note

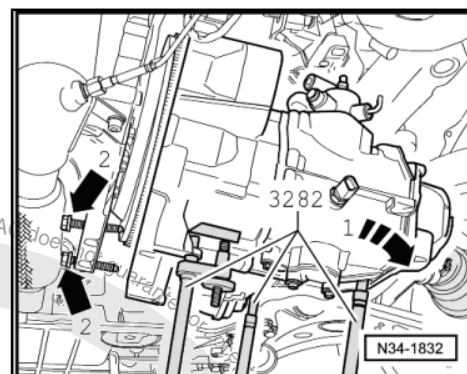
The bolts remain attached to the engine if the exhaust system is in front of the bolts -arrows-.



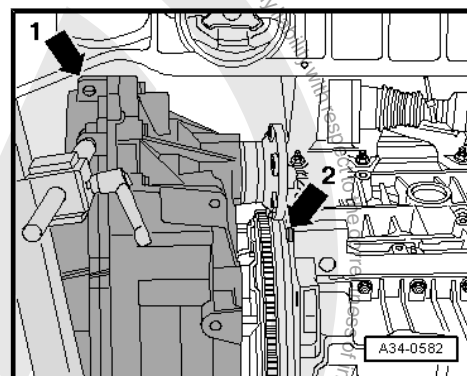
- If the vehicle has a steel metal oil pan, then remove the cover plate -arrows-.
- Remove the transmission from the alignment sleeves.
- Be careful of the intermediate plate on the engine.
- Carefully push the engine forward with a second technician.



- Rotate the transmission downward in the area of the differential -arrow 1- and slightly at the front end.
- If engine/transmission connecting bolts -arrows 2- cannot be removed, ensure they do not come in contact with the exhaust system.



- Then carefully guide transmission with right flange shaft, as shown, onto flywheel/intermediate plate -arrow 2-.
- Lower transmission while being careful of subframe -arrow 1-.
- Use spindles on the Transmission Support - 3282- to adjust the position of the transmission while lowering it.



Note

Pay attention to all of the lines when lowering the transmission.

2.2 Transmission, Installing



Note

Refer to "Transmission, Removing" to get a list of the special tools needed. Refer to ➔ ["2.1 Transmission, Removing", page 82](#).



- Clean all threaded holes with a thread tap to remove any locking fluid residue.
- Always replace self-locking bolts and nuts.
- Make sure the alignment sleeves for centering the engine/transmission are installed inside the cylinder block. Install them if necessary.

If the alignment sleeves are missing, it will be difficult to shift, there will be clutch problems and the transmission may make noises (loose rattling).

- Make sure the intermediate plate fits correctly on the engine.
- Clean the driveshaft splines and grease lightly with Grease For Clutch Disc Shaft Splines - G 000 100- .

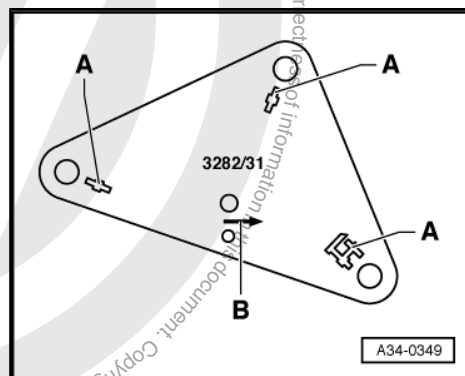
It must be possible to slide the clutch plate back and forth on the input shaft.

The Transmission Support - 3282- is aligned with the Transmission Support - Mounting Plate 31 - 3282/31- in order to install the "0AF" transmission.

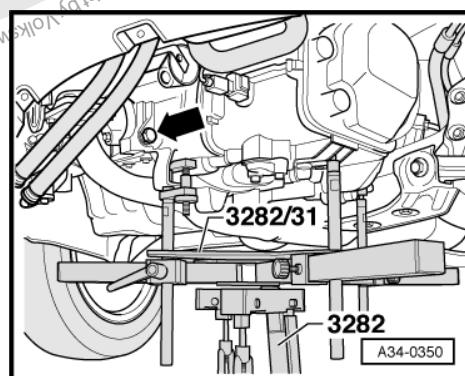
- Insert the Transmission Support - 3282- into the Engine and Gearbox Jack - VAS6931- .
- Place the Transmission Support - Mounting Plate 31 - 3282/31- on the Transmission Support - 3282- (the mounting plate only fits in one position).
- Align the Transmission Support arms so that they align with the holes in the Mounting Plate .
- Install the Support Elements -A- as illustrated on the Adjustment Plate .

The -arrow symbol B- on the adjusting plate points in the direction of travel.

- Place the transmission on the Engine and Gearbox Jack .



- Align the Adjustment Plate so that it is parallel to the transmission.
- Place the Engine/Transmission Jack under the vehicle so that the arrow symbol on the adjusting plate points in direction of travel.
- Adjust the transmission using the spindles on the Transmission Support - 3282- so that the differential points downward.
- The area of the 5th gear cover should face downward.
- Then carefully raise transmission and guide along the sub-frame.



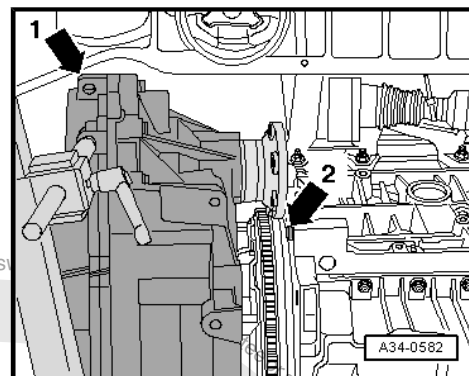
Note

Pay attention to all of the lines when installing the transmission.

- Carefully push the engine forward with a second technician.



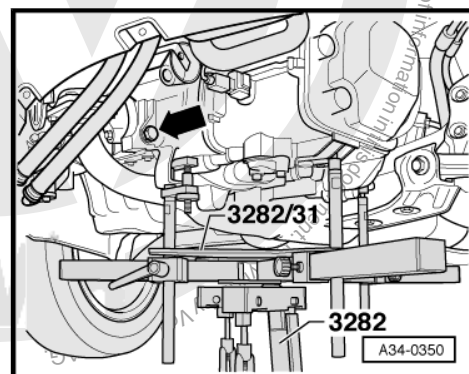
- Guide the transmission carefully past the flywheel -arrow 2- and past the subframe -arrow 1-.



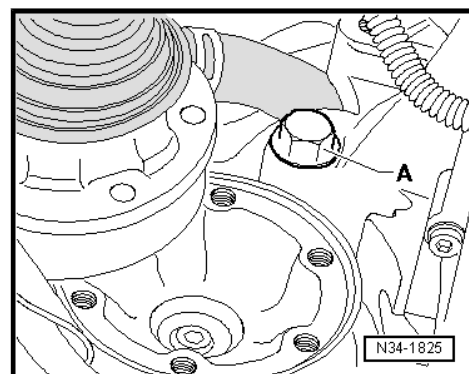
- Rotate the transmission upward -arrow 1- as shown in area of 5th gear cover and toward subframe.



- Install the transmission and then install and tighten the engine/transmission connecting bolt -arrow-. Refer to [⇒ "2.3 Tightening Specifications", page 94](#).

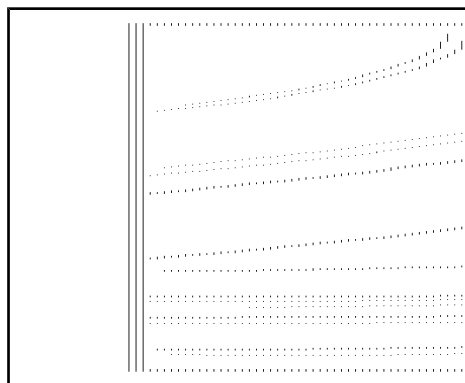


- Install the engine/transmission bolt -A- in area of right flange shaft and tighten to torque. Refer to [⇒ "2.3 Tightening Specifications", page 94](#).
- After the transmission is attached to the engine, remove the Engine and Gearbox Jack from the transmission.

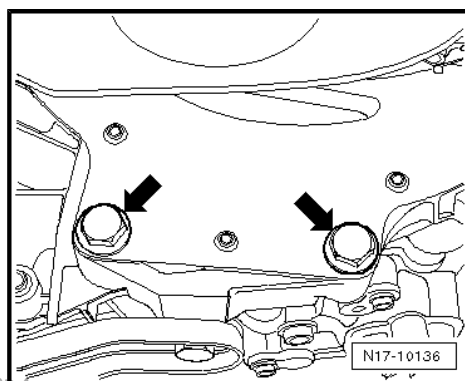




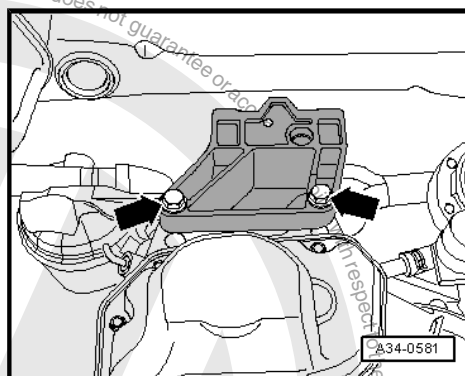
- If equipped, install the small cover plate behind the right flange shaft -A- -arrows- and tighten the bolt to 10 Nm.



- Install the cover plate -arrows- and tighten it to the tightening specification. Refer to
⇒ ["2.3 Tightening Specifications", page 94](#) .



- Attach the transmission support to the transmission using new bolts -arrows-. Refer to
⇒ ["2.3 Tightening Specifications", page 94](#) .
- Align the engine/transmission in its installed position. To do so tighten the spindles on the Engine Support Bridge - 10-222A-



Caution

Risk of damaging the threads in the transmission support by inserting bolts crooked.

- ◆ **The transmission mount and transmission support must be parallel to each other in order to prevent the transmission support thread from becoming damaged.**



Note

Install the engine/transmission mount free of tension. Refer to ⇒
Rep. Gr. 10 ; Engine, Removing and Installing .



- Install new bolts -arrows- for left subframe bracket and tighten to tightening specification. Refer to
⇒ ["2.3 Tightening Specifications", page 94](#) .

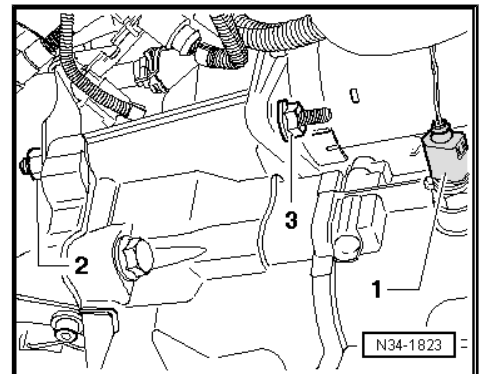
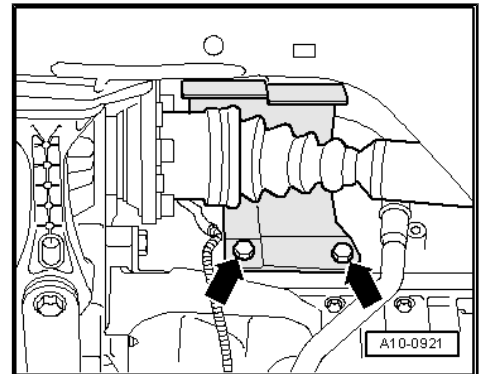
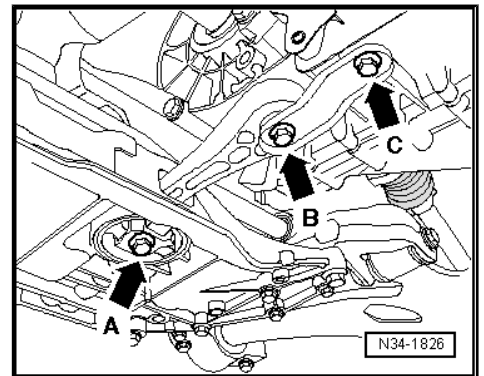
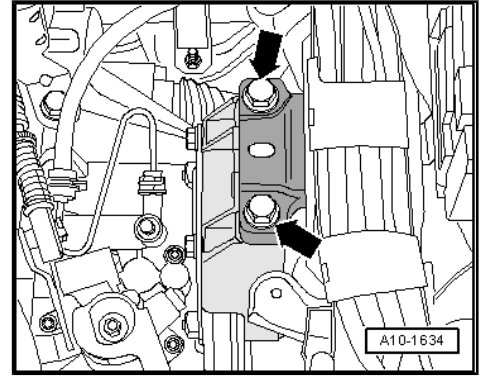


WARNING

Only remove Engine Support Bridge - 10-222A- when the left and right subframe mount bolts are tightened to the tightening specification.

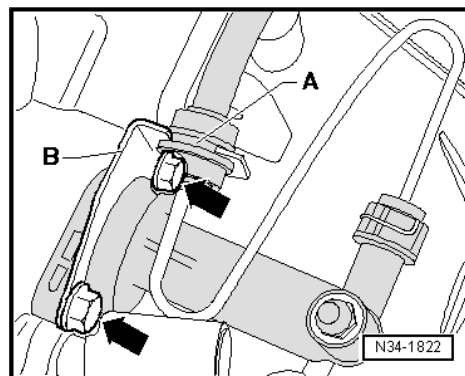
- Install the left and right foam pieces on the upper edge of the fender. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Fender .
- Insert upper engine/transmission connecting bolts and tighten to tightening specification
⇒ ["2.3 Tightening Specifications", page 94](#) .
- Install pendulum support with new bolts -A, B and C arrows-. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Subframe; Overview - Subframe .
- Assemble the exhaust system and install the exhaust system bracket to the subframe. Refer to ⇒ Rep. Gr. 26 .
- Attach the drive axles to the transmission. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .
- If equipped install the drive shaft heat shield on the engine -arrows-. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Overview and Servicing; Drive Axle Heat Shield .

- Install the bolt -3- and if necessary the nut -2- and install the starter. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Starter; Starter, Removing and Installing .
- Connect the connector -1- to the Back-Up Lamp Switch - F4- .

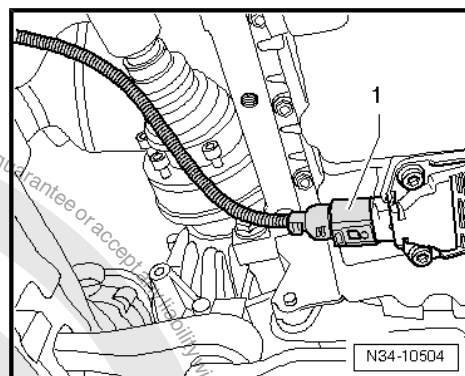




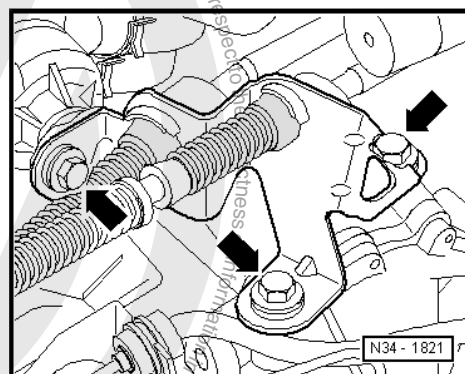
- Install the clutch slave cylinder and tighten the bolts to the tightening specification -item 9- ➔ [Item 9 \(page 44\)](#) .
- Press line between clutch master and slave cylinder -A- into bracket -B-, if present, on transmission.



- Connect the connector -1- to the Oil Level Thermal Sensor - G266- .



- Attach the cable mounting bracket to the transmission and tighten the bolts -arrows- to the tightening specification -item 6- ➔ [Item 6 \(page 67\)](#) .





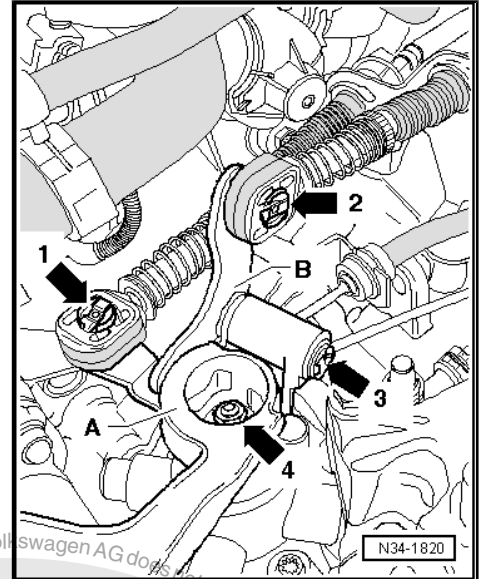
- Install the transmission shift lever -A- (Refer to ➤ Fig. “Installing the transmission shift lever”, page 69) and tighten the nut -arrow 4- -item 17- ➤ Item 17 (page 68) .

Metal Relay Lever



Note

- ◆ Lubricate the bearing areas and sliding surfaces when installing.
- ◆ Allocate the grease for gearshift mechanism. Refer to the Parts Catalog.
- Place the relay lever -B- into the bearing on the gearshift cover.
- Tilt relay lever so that it engages with the slide shoe in the guide on the transmission shift lever.
- Secure relay lever with new lock washer -arrow 3-.



Plastic Relay Lever

- Install the relay lever together with the cable retainer. Refer to ➤ “1.11 Plastic Relay Lever”, page 78 .

Continuation for All

- Coat the pin on the gearshift lever with a small amount of grease -A-.
- Attach the shift cable to the gearshift lever -arrow 1- and install a new locking washer.
- Adjust the gearshift mechanism. Refer to ➤ “1.10 Selector Mechanism; Adjusting”, page 76 .
- Check the transmission fluid level. Refer to ➤ “5 Transmission Fluid, Checking”, page 111 .

If the transmission touched any other components, then repair any damaged surfaces. Refer to Paint Repair Manual.

- Install the lower part of the left front wheel housing liner. Refer to ➤ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner .
- Install the noise insulation. Refer to ➤ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Install the engine cover and the air filter housing. Refer to ➤ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Install the battery tray, battery cover and the battery. Refer to ➤ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .
- Connect the battery and follow the procedure regarding what to do after connecting a battery. Refer to ➤ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .



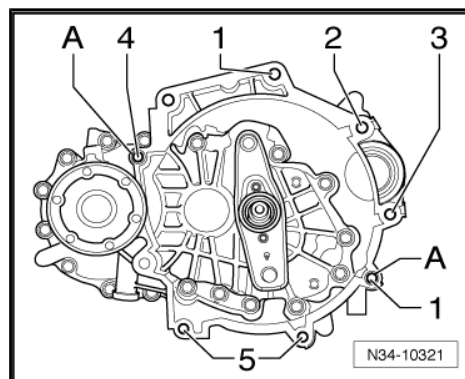
2.3 Tightening Specifications

Transmission To Engine

Vehicles with 1.4 engine

Item	Bolt	Quantity	Nm
1	M 12 x 65	2	80
2	M 12 x 135 ♦ Also starter to transmission	1	80
3	M 12 x 150 ♦ Also starter to transmission	1	80
4	M 12 x 80	1	80
5	M 10 x 35	2	40

-5-: cover plate to transmission
-A- alignment sleeves for centering

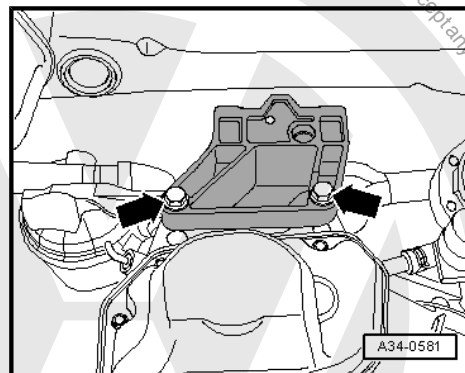


Transmission Support to Transmission

- Replace the bolts.

Bolts -arrows-

40 Nm +90°



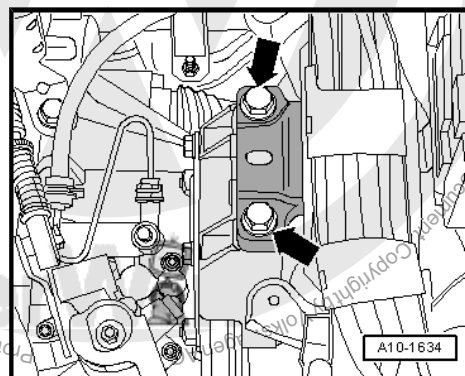
Transmission Support to Transmission Mount

- Replace the bolts.

Bolts -arrows-

60 Nm +90°

Component	Nm
Bracket for lower starter plug wires	20
Ground cable to engine/transmission bolt	20





3 Transmission, Removing and Installing, Jetta from MY 2011

⇒ [“3.1 Transmission Removing, Jetta 2011 with 2.0L engine”, page 95](#) .

⇒ [“3.2 Transmission, Installing, Jetta 2011 with 2.0L Engine”, page 102](#) .

⇒ [“3.3 Tightening Specifications”, page 108](#) .

3.1 Transmission Removing, Jetta 2011 with 2.0L engine

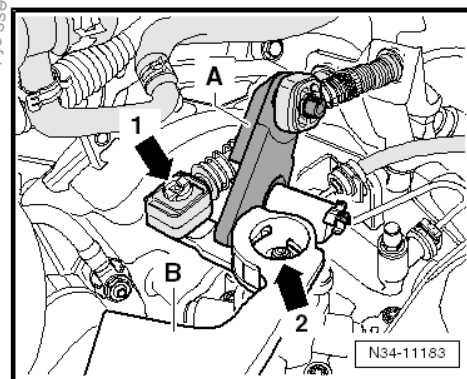
Special tools and workshop equipment required

- ◆ Engine Support Bridge - 10-222A-
- ◆ Transmission Support - 3282-
- ◆ Support Elements for transmission (determine when mounting the Mounting Plate on the Transmission Support)
- ◆ Engine and Gearbox Jack - VAS6931-
- ◆ Tensioning Strap - T10038-
- ◆ Engine Support - Basic Set - T40091-
- ◆ Engine Support - Supplement Kit - T40093A-
- ◆ Transmission Support - Mounting Plate 31 - 3282/31-
- ◆ Transmission Support - Pins 45 - 3282/45-
- ◆ Socket - Xzn 14 - T10061-
- ◆ Grease for Clutch Disc Shaft Splines - G 000 100-
- ◆ Allocate the grease for gearshift mechanism. Refer to the Parts Catalog.

- Determine whether a coded radio is installed. If so, obtain the anti-theft code.

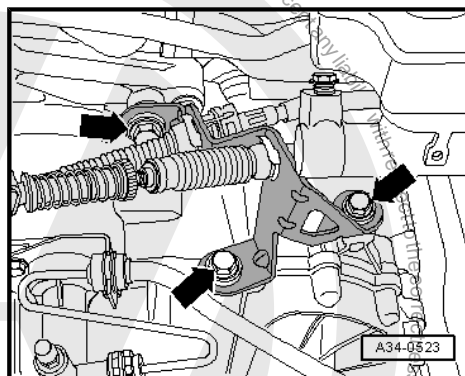
Disconnect the battery ground cable. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .

- Remove the air filter housing. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the battery and the battery tray. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .
- Remove the shift cable lock washer -arrow 1- from the selector lever -B-.
- Remove the shift cable from the pins.
- Remove the cable retainer from the selector cable. Refer to ⇒ [Fig. “Disconnecting the Cable Retainer from the Selector Cable”](#), page 71 .
- Remove the relay lever -A- and the cable retainer. Refer to ⇒ [“1.11 Plastic Relay Lever”, page 78](#) .
- Remove the nut -arrow 2- and remove the transmission shift lever -B-.





- Remove the cable bracket from the transmission -arrows-.
- Tie up the shift cable and the selector cable.

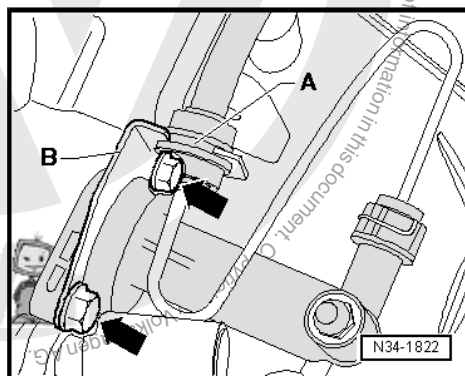


- Disconnect the line between the clutch master and clutch slave cylinders -A- from the bracket -B-.
- Remove clutch slave cylinder -arrow B- and lay aside, secure with wire, do not open line system.

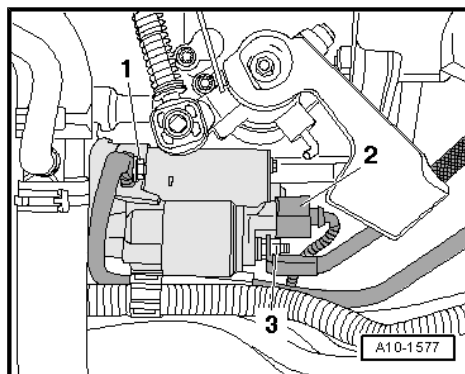


Caution

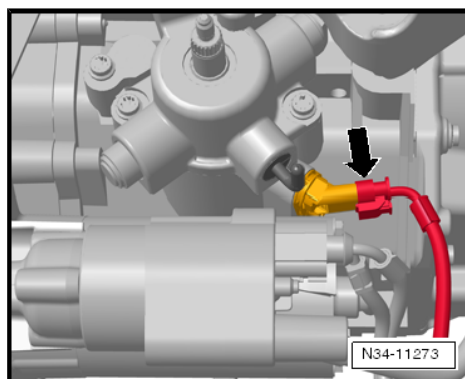
Do not press the clutch pedal anymore.



- Remove the ground cable from the bolt on the top of the starter -1-.
- Disconnect the connector -2- and remove the wire from the starter -3-.
- Remove the upper bolt from the starter.
- Remove the upper engine/transmission bolts.

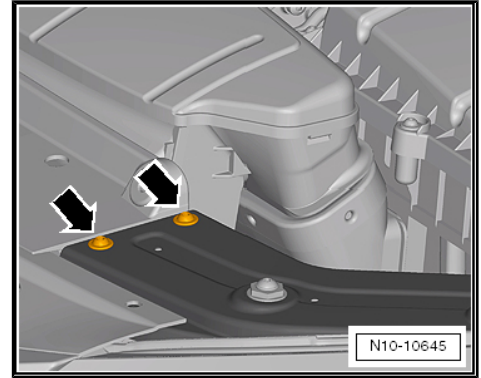


- Transmission on vehicles with Start/Stop System: disconnect the connector -arrow- from the Transmission Neutral Position Sensor - G701- .
- Remove the plenum chamber cover. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Plenum Chamber Cover; Plenum Chamber Cover, Removing and Installing .

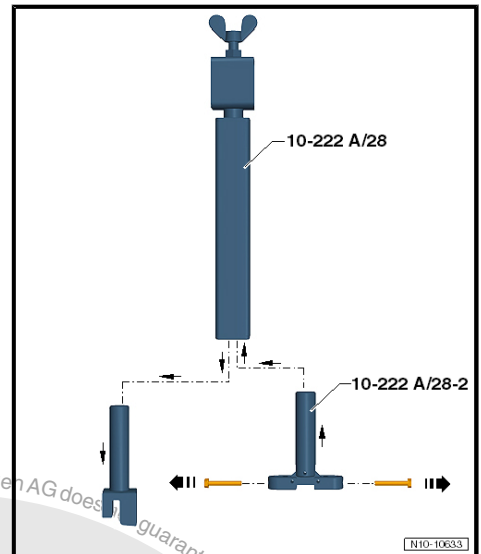




- Remove the bolts -arrows- for the left and right lock carrier retaining brackets.



- Remove the lower mounts on the Engine Support Bridge - Engine Support 28 - 10-222A/28- and replace with the Engine Support Bridge - Engine Support 28-2 - 10-222A/28-2 .
- Remove the bolts -arrows- for securing the engine support bridge on the lock carrier from the Engine Support Bridge - Engine Support 28-2 - 10-222A/28-2 .
- Use the bolts in the Engine Support Bridge - Engine Support 28-2 - 10-222A/28-2- for attaching the Engine Support Bridge - Engine Support 28 - 10-222A/28- . Not the bolts for the retaining bracket.



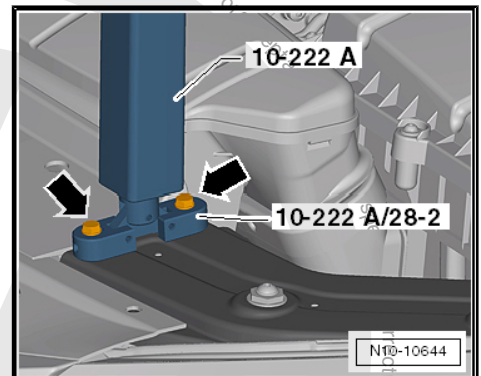
- Install the Engine Support Bridge - Engine Support 28 - 10-222A/28- and tighten the bolts to 8 Nm -arrows-.



Caution

A second technician is needed to mount the Engine Support Bridge on the vehicle to prevent the Engine Support Bridge from tipping.

- If there are hose and cable connections located near the engine lifting eyes for the Engine Support Bridge - 10-222A- , these must now be removed.



Vehicles with a 2.0L/85 kW engine:

- Install the Engine Support Bridge - 10-222A- as shown.
- First slide the Moveable Joints -2- onto the Square Pipe from the Engine Support Bridge - 10-222A- .
- Mount the Engine Support Bridge - 10-222A- on the suspension strut towers and have a second technician hold it to prevent it from tipping.
- Push the Engine Support - Basic Set - Square Pipe - T40091/1- -5- from the front left and right through the Engine Support Bridge - Engine Support 28 - 10-222A/28- -6- and place on each side of the Engine Support - Supplement Kit - Movable Joint - T40093/4- -4-.
- Slide the Engine Support - Basic Set - Rail with Holes - T40091/2- -8- with the Engine Support - Supplement Kit Mount



- T40093/5- -9- in the Engine Support - Supplement Kit - Moveable Joint - T40093/4- -4-.
- Install the locking pins into the Engine Support - Basic Set - Rail with Holes - T40091/2- -8- and secure it with the cotter pins.

1 - Engine Support Bridge - Engine Support 31 - Adapter 2 - 10-222A/31-2-

2 - Engine Support - Basic Set - Moveable Joint - T40091/3-

3 - Engine Support Bridge - Engine Support 31 - Adapter 1 - 10-222A/31-1-

4 - Engine Support - Supplement Kit - Moveable Joint - T40093/4-

5 - Engine Support - Basic Set - Square Pipe - T40091/1-

6 - Engine Support Bridge - Engine Support 28 - 10-222A/28- with Engine Support Bridge - Engine Support 28-2 - 10-222A/28-2-

7 - Engine/Gearbox Support Shackle (2 pc.) - 10-222A/12-

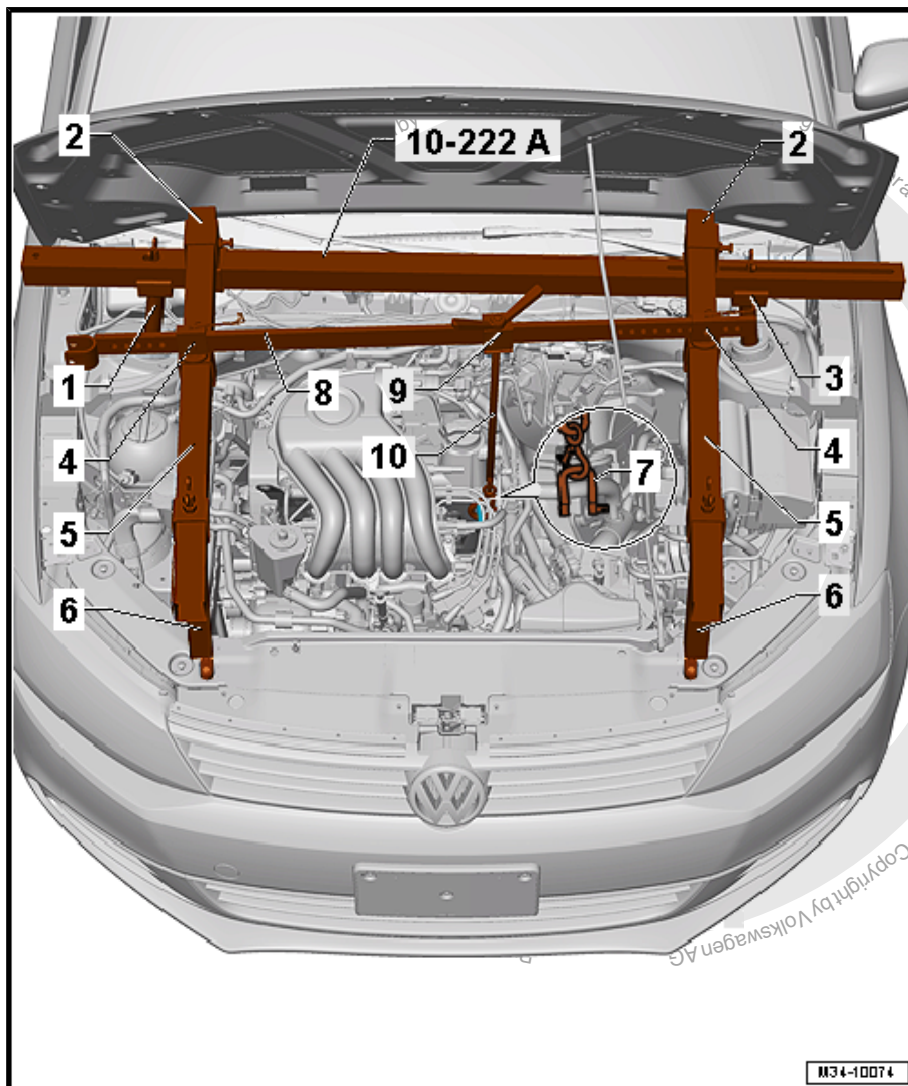
- ☐ Engaged in the engine lifting eye.

8 - Engine Support - Basic Set - Rail with Holes - T40091/2-

9 - Engine Support - Supplement Kit - Mount 5 - T40093/5-

10 - Engine Support Bridge - Spindle - 10-222A/11-

- ☐ Engaged in the Engine/Gearbox Support Shackle (2 pc.) - 10-222A/12- .



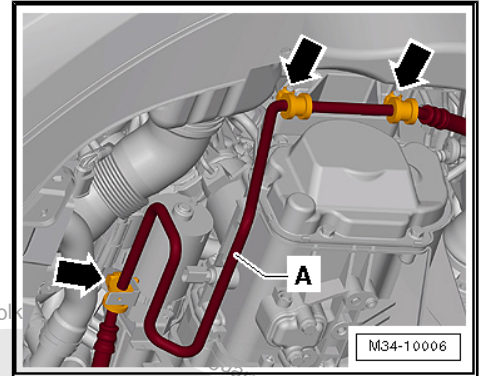
- Tighten all the threaded connections on the Engine Support Bridge hand-tight. While doing so, adjust the height of the Engine Support Bridge parallel over the Engine Support Bridge - Engine Support 28 - 10-222A/28- .
- Lightly tension the engine/transmission assembly via the Engine Support Bridge - 10-222A- spindle, do not lift.
- Raise the vehicle and remove the left front wheel.
- Remove the noise insulation. Refer to ➤ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Remove the left front housing liner. Refer to ➤ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .



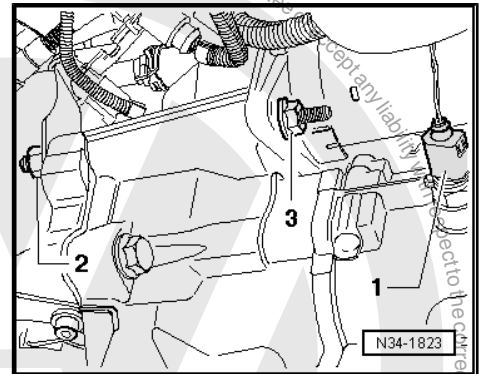
Vehicles with Power Steering

- Remove the bracket with the power steering line -A- from the transmission -arrows-.

Continuation for all vehicles



- Disconnect the connector -1- from the Back-Up Lamp Switch -F4- .
- If a nut -2- is installed, it must be removed now.
- Remove bracket from lower starter bolt, if equipped.
- Remove the lower bolt -3- from the starter and then remove the starter. Refer to ➤ Electrical Equipment; Rep. Gr. 27 ; Starter; Starter, Removing and Installing .
- Separate the exhaust system at the double clamp and remove the exhaust pipe bracket from the subframe. Refer to ➤ Rep. Gr. 26 ; Exhaust System .

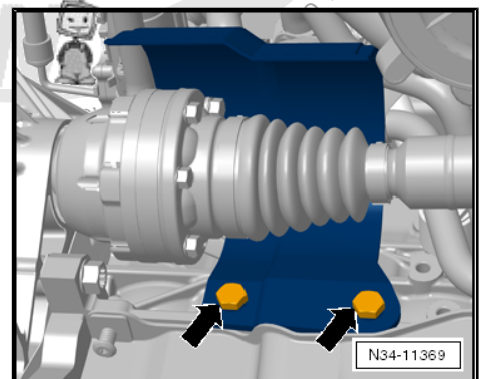


Caution

Risk of damaging the decoupling element.

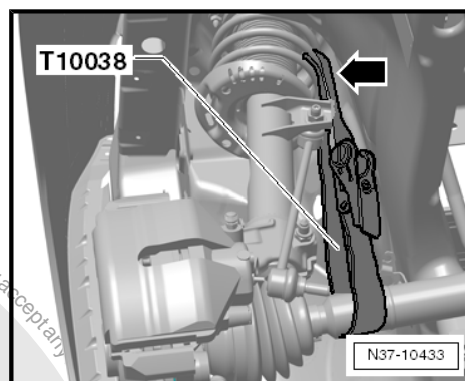
- ◆ **Do not bend the decoupling element more than 10°.**
- ◆ **Do not load the decoupling element.**
- ◆ **Do not damage the wire mesh on the decoupling element.**

- Remove the heat shield above the right driveshaft -arrows-.

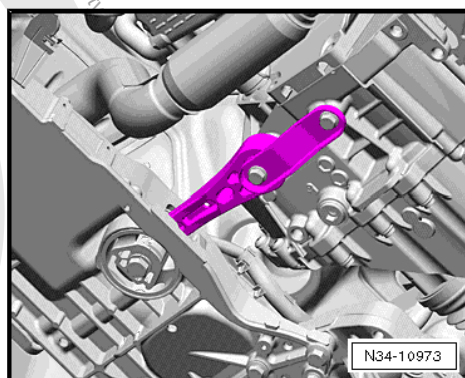




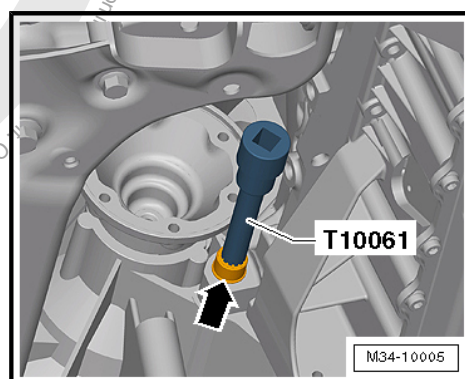
- Remove the drive axles from the flange shafts and tie them up as high as possible. Be careful not to damage the surface protection. Refer to ➤ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .



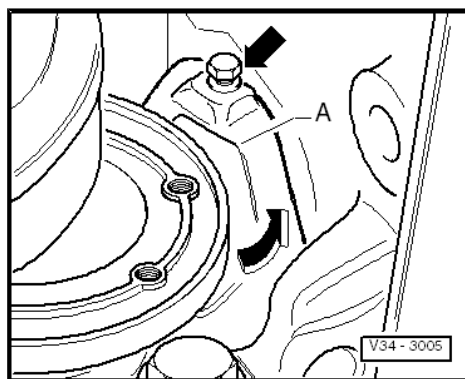
- Remove the pendulum support. Refer to ➤ Suspension, Wheels, Steering; Rep. Gr. 40 ; Subframe; Overview - Subframe .



- If equipped, remove engine/transmission connecting bolt -arrow- in area of right flange shaft. Use the connector Socket - Xzn 14 - T10061- to do so.

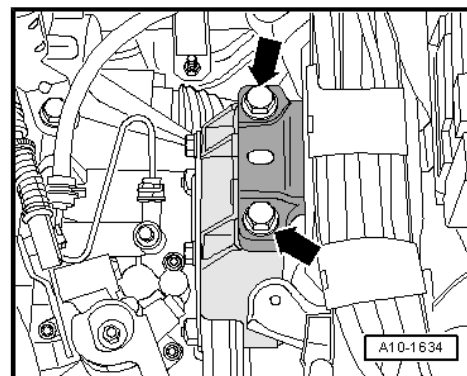


- If equipped, remove the cover plate -A- -arrows-.





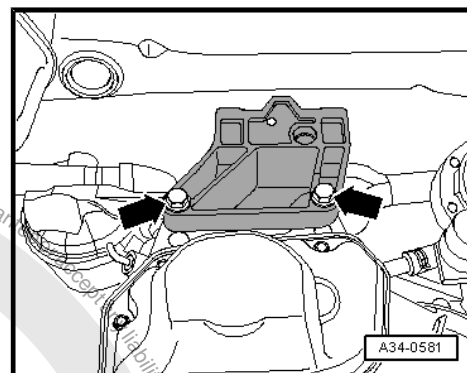
- Remove the left assembly mounting hex bolts -arrows- from the transmission mounting.
- Carefully move the engine/transmission subassembly into an angled position. To do so lower the engine/transmission assembly using the Engine Support Bridge - 10-222A- spindle.
- The bolts -arrows- for the transmission support must be accessible.



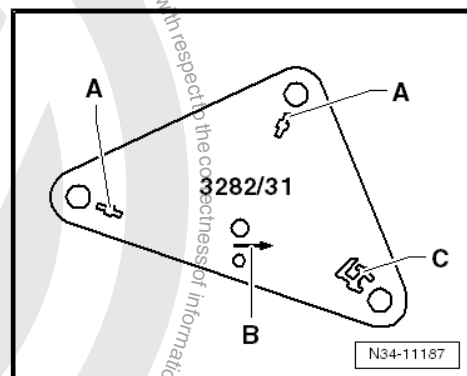
- Remove the transmission support from the transmission -arrows-.

The Transmission Support - 3282- is aligned with the Transmission Support - Mounting Plate 31 - 3282/31- in order to remove the "0AF" transmission.

- Insert the Transmission Support - 3282- into the Engine and Gearbox Jack - VAS6931- .
- Align the arms of the Transmission Support so that they match up with the holes in the Adjustment Plate .



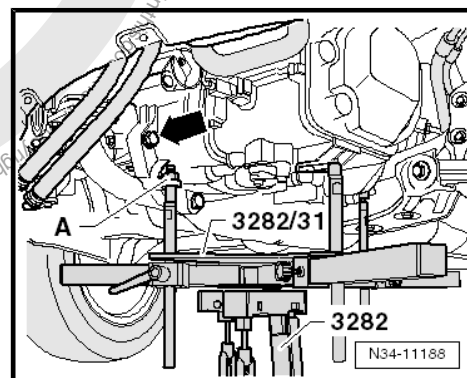
- Install the Support Elements -A- as illustrated on the Adjustment Plate .
- Install the Mounting Element -C- instead of the Transmission Support - Pins 45 - 3282/45- .
- Position the Engine and Transmission Jack under the vehicle. The arrow symbol -B- on the Adjusting Plate points in the direction of travel.



- Align the adjustment plate so that it is parallel to the transmission.

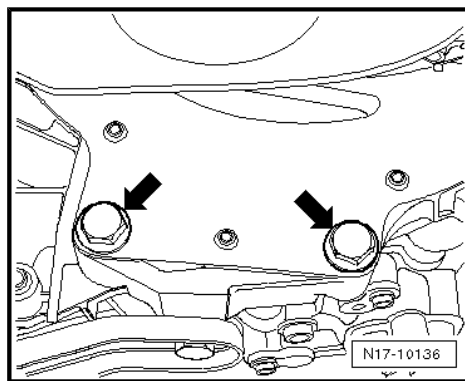
-A- = Transmission Support - Pins 45 - 3282/45- with M 8 collar nut.

- Install the M8 collar nut on the Transmission Support - Pins 45 - 3282/45- to secure the transmission.
- Remove the engine/transmission connecting bolt -arrow-.
- Remove the lower engine/transmission bolts.

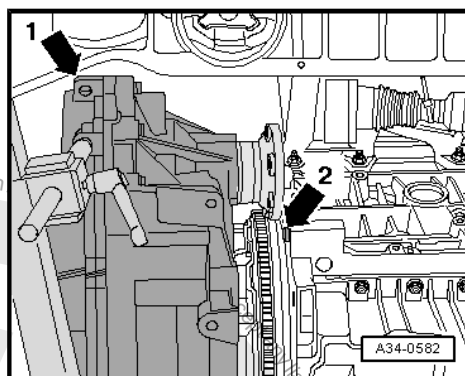




- If the vehicle has a metal oil pan, remove the cover plate -arrows-.
- Remove the transmission from the alignment bushings and carefully move it toward the subframe.
- Be careful of the intermediate plate on the engine.
- Carefully push the engine slightly forward with a second technician.



- Then carefully guide transmission with right flange shaft, as shown, onto flywheel/intermediate plate -arrow 2-.
- Lower the transmission carefully. When doing this, be careful of the subframe -arrow 1-.
- Guide the transmission past the power steering line, if installed, and past the subframe when lowering it.
- Use spindles on the Transmission Support - 3282- to adjust the position of the transmission while lowering it.



Note

Pay attention to all of the lines when lowering the transmission.

3.2 Transmission, Installing, Jetta 2011 with 2.0L Engine

⇒ ["3.3 Tightening Specifications", page 108](#)



Note

Refer to "Transmission, Removing" to get a list of the special tools needed. Refer to

⇒ ["3.1 Transmission Removing, Jetta 2011 with 2.0L engine", page 95](#).

- Clean all threaded holes with a thread tap to remove any locking fluid residue.
- Always replace self-locking bolts and nuts.
- Make sure the alignment sleeves for centering the engine/transmission are installed inside the cylinder block. Install them if necessary.

If the alignment sleeves are missing, it will be difficult to shift, there will be clutch problems and the transmission may make noises (loose rattling).

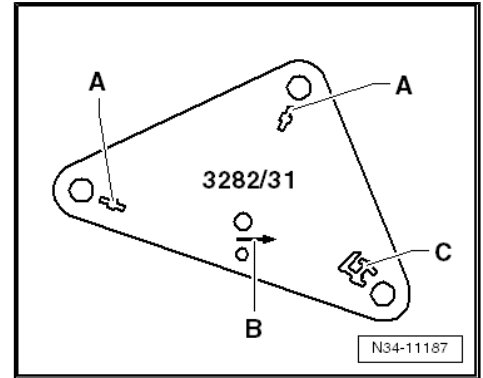
- Make sure the intermediate plate fits correctly on the engine.
- Clean the driveshaft splines and grease lightly with Grease For Clutch Disc Shaft Splines - G 000 100- .

It must be possible to slide the clutch plate back and forth on the input shaft.

The Transmission Support - 3282- is aligned with the Transmission Support - Mounting Plate 31 - 3282/31- in order to install the "0AF" transmission.



- Insert the Transmission Support - 3282- into the Engine and Gearbox Jack - VAS6931- .
- Place the Transmission Support - Mounting Plate 31 - 3282/31- on the Transmission Support - 3282- (the mounting plate only fits in one position).
- Align the Transmission Support arms so that they align with the holes in the Mounting Plate .
- Install the Support Elements -A- as illustrated on the Adjustment Plate .
- Install the Mounting Element -C- instead of the Transmission Support - Pins 45 - 3282/45- .



- Align the Adjustment Plate so that it is parallel to the transmission.
- Position the Engine and Transmission Jack under the vehicle. The arrow symbol -B- on the Adjusting Plate points in the direction of travel.

A = Transmission Support - Pins 45 - 3282/45- with M 8 collar nut.

- Install the M8 collar nut on the Transmission Support - Pins 45 - 3282/45- to secure the transmission.

- Carefully lift the transmission. Be careful of the power steering line (if equipped).

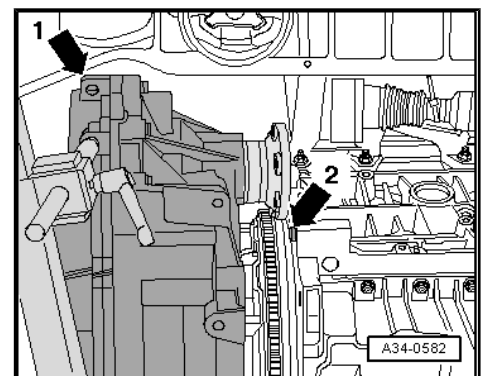
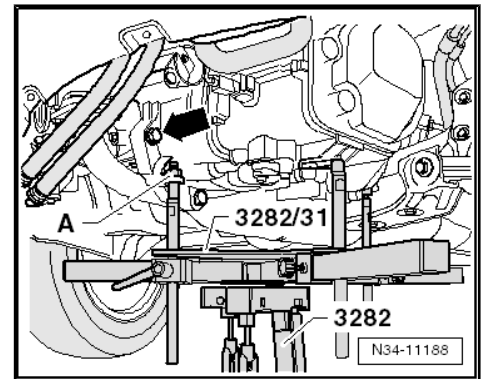
- Carefully push the engine slightly forward with a second technician.

- Guide the transmission carefully past the flywheel -arrow 2- and past the subframe -arrow 1-.

- A second technician must continue to press the engine forward.

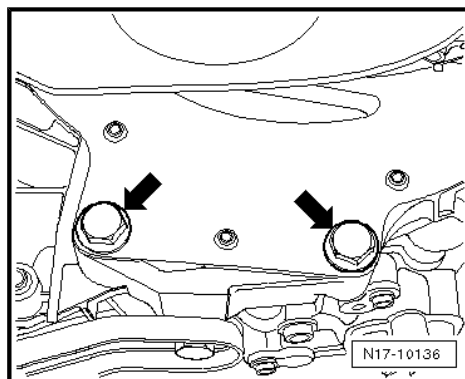
- Align the transmission with the engine and install it.

- Install the lower bolts for attaching the engine to the transmission and tighten them to the tightening specification. Refer to ["3.3 Tightening Specifications", page 108](#) .

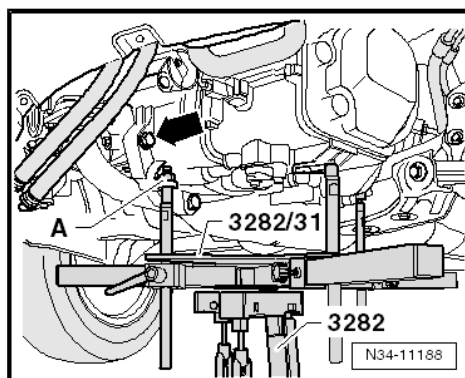




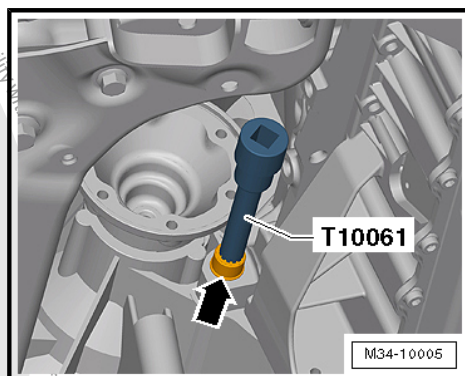
- If the vehicle has a metal oil pan, then install the cover plate -arrows- near the oil pan.



- Install the engine/transmission connecting bolt -arrow- and tighten it to the tightening specification. Refer to [⇒ "3.3 Tightening Specifications", page 108](#) .

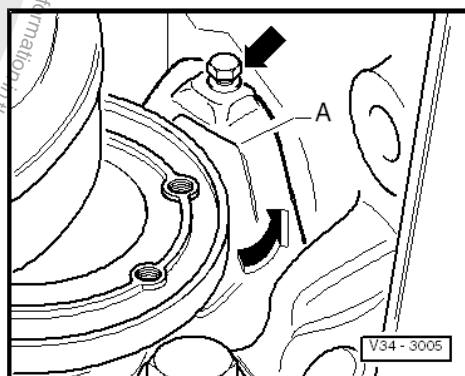


- Install the engine/transmission connecting bolt -arrow- into the right side of the flange shaft and tighten it to the tightening specification. Refer to [⇒ "3.3 Tightening Specifications", page 108](#) . Use the connector Socket - Xzn 14 - T10061- to do so.



Install the cover plate -A- -arrows- and tighten the bolt to 10 Nm.

- After the transmission is attached to the engine, remove the Engine and Gearbox Jack from the transmission.





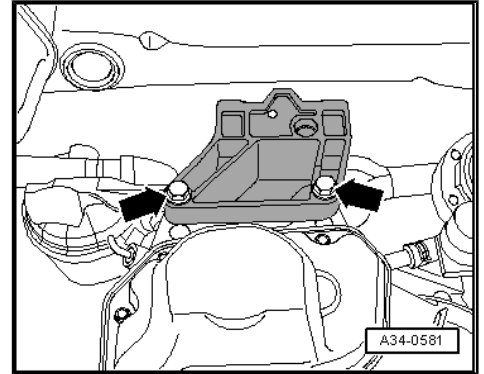
- Attach the transmission support to the transmission using new bolts -arrows-. Refer to ➤ [“3.3 Tightening Specifications”, page 108](#) .
- Align the engine/transmission in its installed position. To do so tighten the spindle on the Engine Support Bridge - 10-222A-



Caution

Risk of damaging the threads in the transmission support by inserting bolts crooked.

- ◆ **The transmission mount and transmission support must be parallel to each other in order to prevent the transmission support thread from becoming damaged.**



Note

Install the engine/transmission mount free of tension. Refer to ➤ Rep. Gr. 10 ; Engine, Removing and Installing .

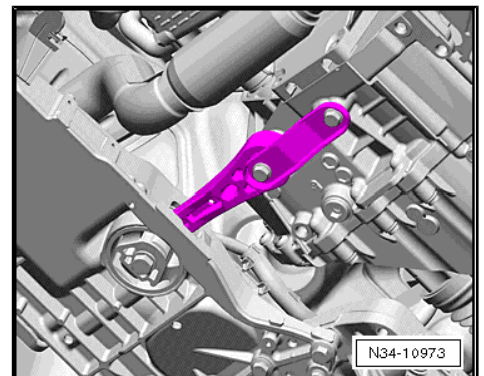
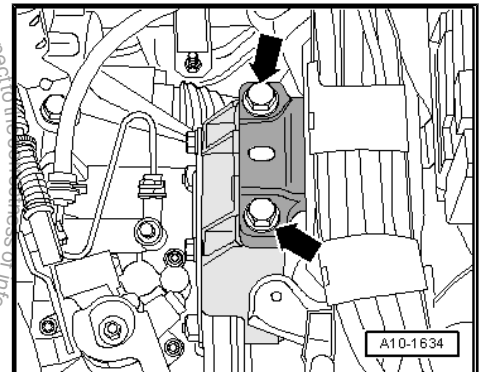
- Install new bolts -arrows- for left subframe bracket and tighten to tightening specification. Refer to ➤ [“3.3 Tightening Specifications”, page 108](#) .



WARNING

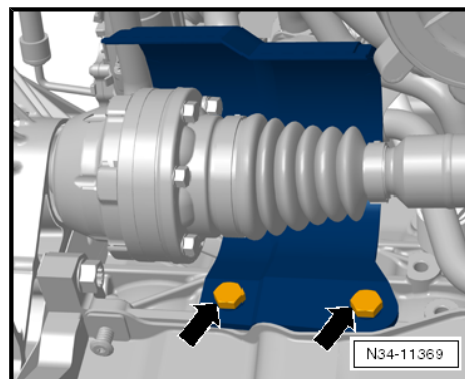
Only remove Engine Support Bridge - 10-222A- when the left and right subframe mount bolts are tightened to the tightening specification.

- Install the upper bolts for attaching the engine to the transmission and tighten them to the tightening specification. Refer to ➤ [“3.3 Tightening Specifications”, page 108](#) .
- Install the pendulum support. Refer to ➤ Suspension, Wheels, Steering; Rep. Gr. 40 ; Subframe; Overview - Subframe .
- Use new bolts.
- Attach the drive axles to the transmission. Refer to ➤ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .



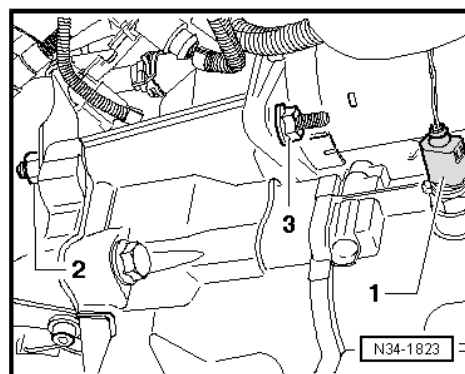


- If equipped install the drive shaft heat shield -arrows-. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Overview and Servicing; Drive Axle Heat Shield .

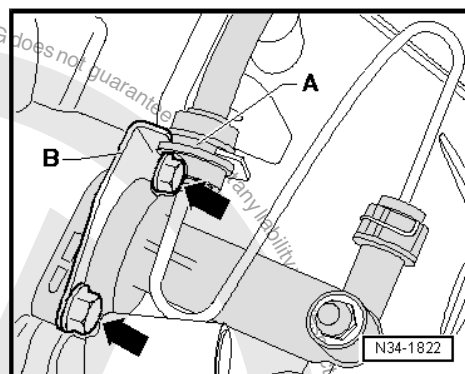


- Assemble the exhaust system and then attach the exhaust system bracket to the subframe. Refer to ⇒ Rep. Gr. 26 ; Exhaust System .

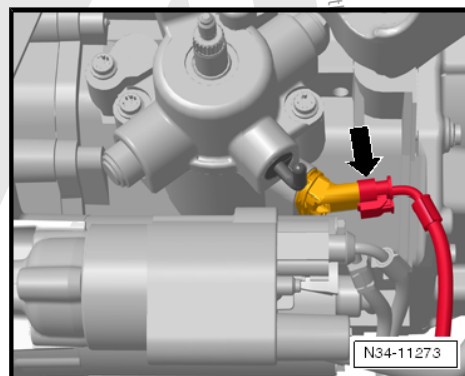
- Install the bolt -3- and if necessary the nut -2- and install the starter. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Starter; Starter, Removing and Installing .
- Connect the connector -1- to the Back-Up Lamp Switch - F4- .



- Install the clutch slave cylinder and tighten the bolts -arrows- to the tightening specification -item 9- ⇒ [Item 9 \(page 44\)](#) .
- Press line between clutch master and slave cylinder -A- into bracket -B-, if present, on transmission.
- Attach the ground cable to the upper bolt on the starter.

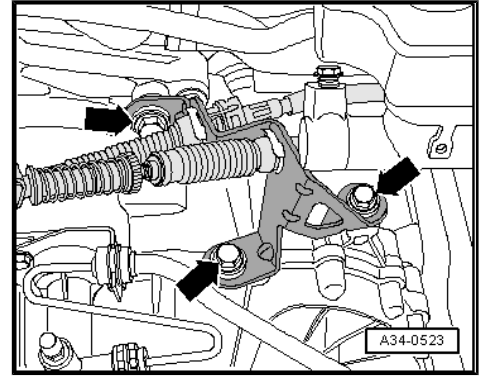


- Transmission on vehicles with Start/Stop System: connect the connector -arrow- to the Transmission Neutral Position Sensor - G701- .

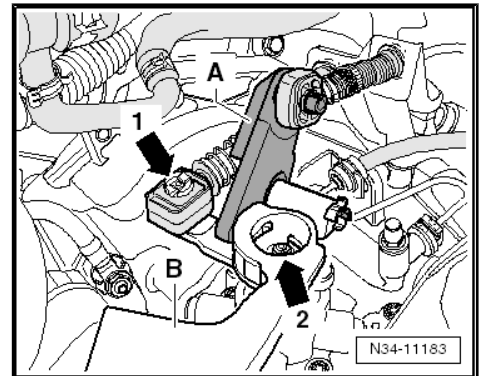




- Attach the cable mounting bracket to the transmission and tighten the bolts -arrows- to the tightening specification -item 6- ➔ [Item 6 \(page 67\)](#) .



- Install the gearshift lever -B-. Refer to ➔ [Fig. “Installing the transmission shift lever”](#), [page 69](#) and tighten the nut -arrow 2- to the tightening specification -item 17- ➔ [Item 17 \(page 68\)](#) .



i Note

- ◆ *Lubricate the bearing areas and sliding surfaces when installing.*
- ◆ *Allocate the grease for gearshift mechanism. Refer to the Parts Catalog.*

- Install the relay lever -A- and the cable retainer. Refer to ➔ [“1.11 Plastic Relay Lever”](#), [page 78](#) .
- Coat the pin on the gearshift lever with a small amount of grease -A-.

Allocate the grease for gearshift mechanism. Refer to the Parts Catalog.

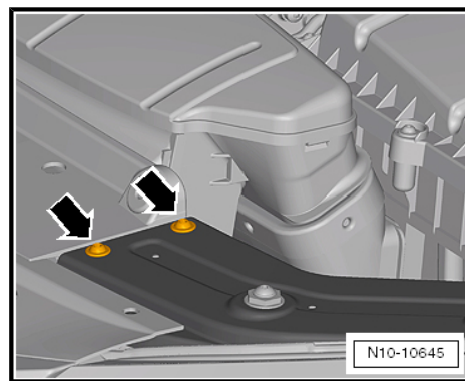
- Attach the shift cable to the gearshift lever -arrow 1- and install a new locking washer.
- Adjust the gearshift mechanism. Refer to ➔ [“1.10 Selector Mechanism, Adjusting”](#), [page 76](#) .
- Check the transmission fluid level. Refer to ➔ [“5 Transmission Fluid, Checking”](#), [page 111](#) .

If the transmission touched any other components, then repair any damaged surfaces. Refer to Paint Repair Manual.

- Install the plenum chamber cover. Refer to ➔ Body Exterior; Rep. Gr. 50 ; Plenum Chamber Cover; Plenum Chamber Cover, Removing and Installing .



- Install the bolts -arrows- for the left and right lock carrier retaining brackets to the tightening specification. Refer to ➤ Body Exterior; Rep. Gr. 50 ; Lock Carrier; Lock Carrier - Attachments .
- Install the battery tray and the battery. Refer to ➤ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Removing and Installing .
- Install the air filter. Refer to ➤ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Connect the battery and follow the procedure regarding what to do after connecting a battery. Refer to ➤ Electrical Equipment; Rep. Gr. 27 ; Battery; Battery, Disconnecting and Connecting .
- Install the left front wheel housing liner. Refer to ➤ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Install the noise insulation. Refer to ➤ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Install the wheel. Refer to ➤ Suspension, Wheels, Steering; Rep. Gr. 44 ; Wheel Installation Tightening Specifications .

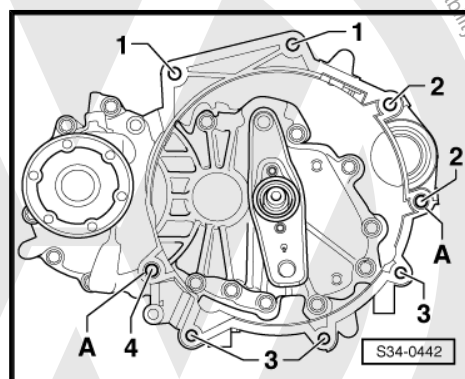


3.3 Tightening Specifications

Transmission to Engine, vehicle with 2.0L Engine

Item	Bolt	Quantity	Nm
1	M 12 x 50	2	80
2	M 12 x 135 ♦ Also starter to transmission	2	80
3	M10 x 50	3	40
4	M 12 x 60	1	80

-A- alignment sleeves for centering

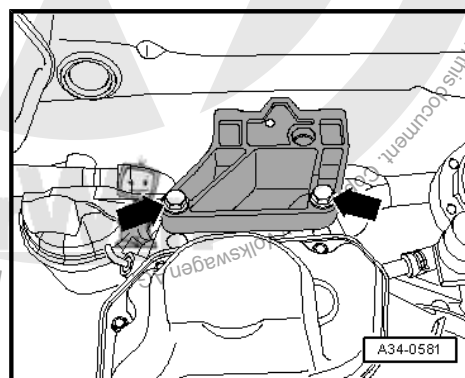


Transmission Support to Transmission

- Replace the bolts.

Bolts -arrows-

40 Nm +90°





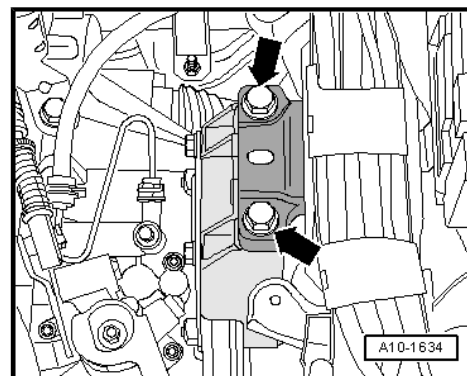
Transmission Support to Transmission Mount

- Replace the bolts.
- Tighten all bolts hand-tight.
- Tighten the bolt to the tightening specification.

Bolts -arrows-

60 Nm +90°

Component	Nm
Bracket for lower starter plug wires	20
Ground cable to engine/transmission bolt	20

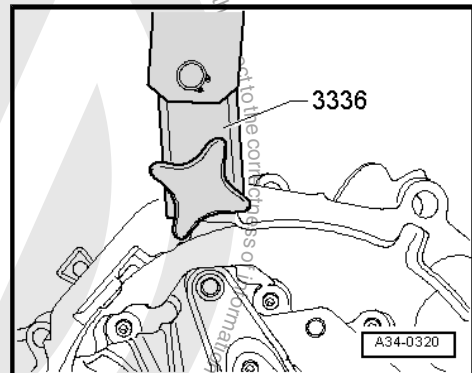




4 Transmission, Transporting

Special tools and workshop equipment required

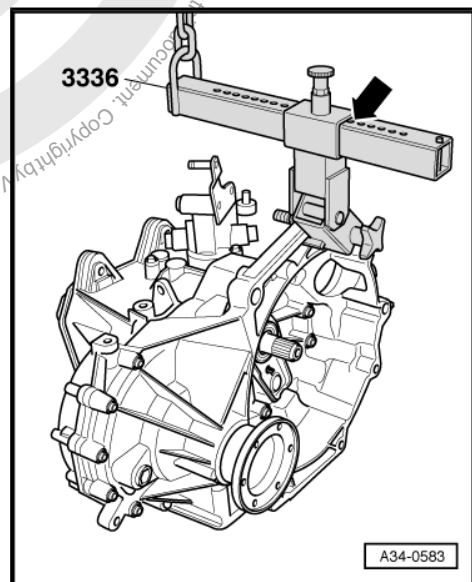
- ◆ Transmission Support Jig - 3336-
- ◆ Shop Crane - VAS6100-
- Attach the Transmission Support Jig - 3336- to the clutch housing.



- Move the support arm on the sliding bar using the locking bolt -arrow-.

Number of visible holes = 6.

- Lift the transmission using the Shop Crane - VAS6100- and the Transmission Support Jig - 3336- .
- Set the transmission down, for example, into the transport container.





5 Transmission Fluid, Checking

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Triple Square Socket Driver - 3357-
- or
- ◆ 17 mm inner hex socket

Transmission fluid specification. Refer to the Parts Catalog.

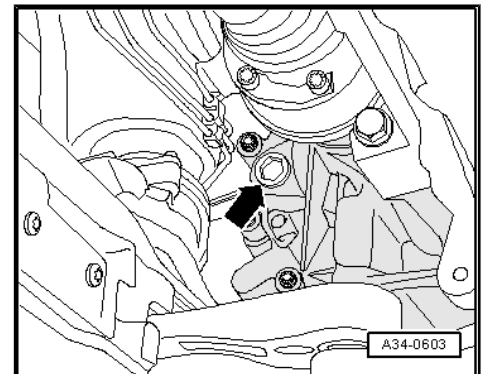
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Remove the plug for checking the transmission fluid level -arrow-.

The level is correct when the transmission fluid comes up to the bottom edge of oil filler hole.

- Tighten the plug -arrow- to the tightening specification. Refer to
⇒ Fig. [““Different Versions of Fluid Fill and Drain Plugs””](#) , page 111 .

Note the following when filling for the first time:

- Remove the plug -arrow-.
- Add transmission fluid until it reaches the lower edge of the filler hole.
- Install the plug -arrow-.
- Start the engine, engage a gear and let the transmission turn for approximately two minutes.
- Turn off the engine and remove the plug -arrow-.
- Add transmission fluid until it reaches the lower edge of the filler hole.
- Tighten the plug -arrow- to the tightening specification. Refer to
⇒ Fig. [““Different Versions of Fluid Fill and Drain Plugs””](#) , page 111 .

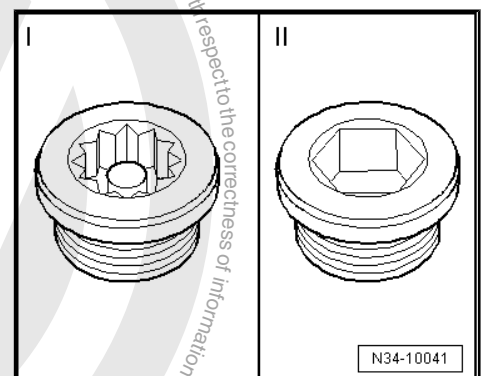


Different Versions of Fluid Fill and Drain Plugs

I - Oil filler or drain plug with multi-point socket head, 25 Nm

II - Oil filler or drain plug with hex socket head, 30 Nm

- Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .





6 Transmission, Disassembling and Assembling

⇒ [“6.1 Transmission Overview”, page 112](#)

⇒ [“6.3 Overview - Transmission Housing Cover and 5th Gear, Removing and Installing”, page 114](#)

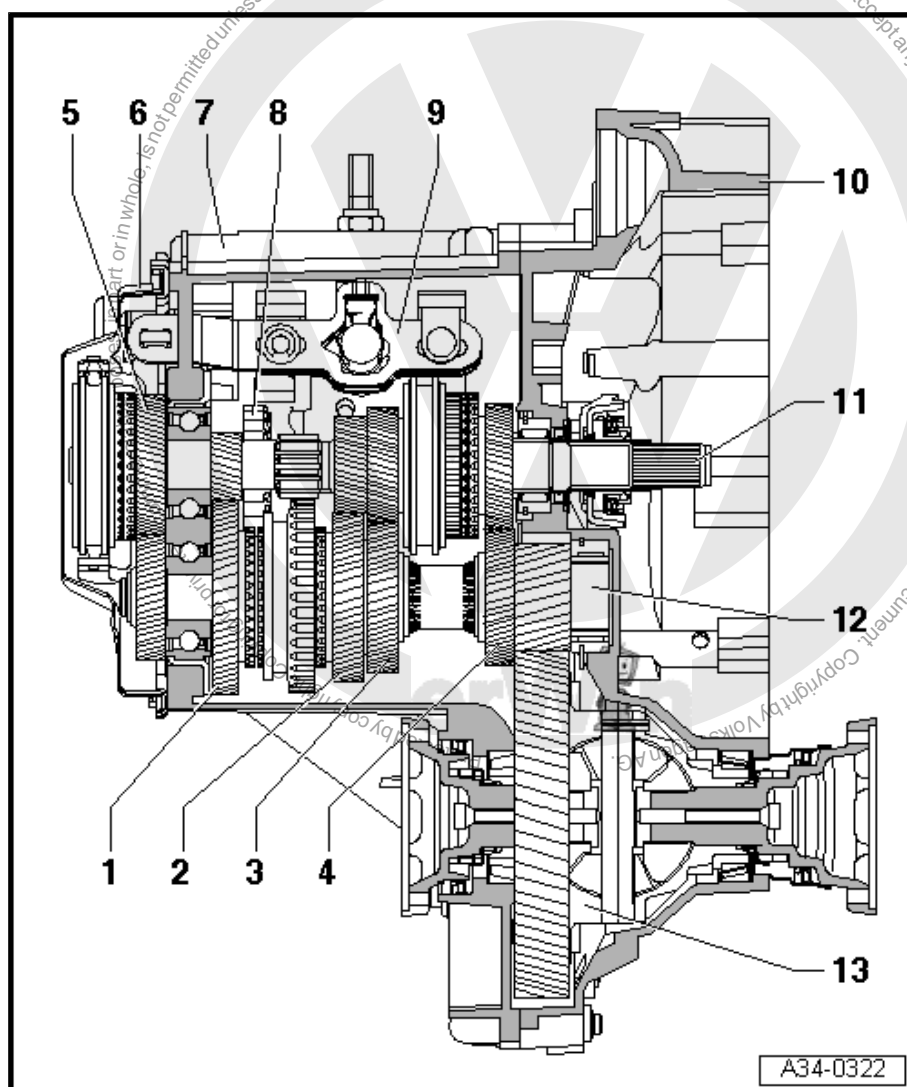
⇒ [“6.4 Overview - Clutch Housing, Removing and Installing”, page 115](#)

⇒ [“6.5 Overview - Input Shaft, Output Shaft, Differential Selector Mechanism and Shift Rods, Removing and Installing”, page 116](#)

⇒ [“6.6 Disassembly and Assembly Sequence”, page 117](#)

6.1 Transmission Overview

- 1 - 1st Gear
- 2 - 2nd Gear
- 3 - 3rd Gear
- 4 - 4th Gear
- 5 - 5th Gear
- 6 - Transmission Housing Cover
- 7 - Transmission Housing
- 8 - Reverse Drive Gear
- 9 - Selector Mechanism
 - (Shift forks)
- 10 - Clutch Housing
- 11 - Input Shaft
- 12 - Output Shaft
- 13 - Differential





6.2 Overview

I - Overview - Removing and Installing, Transmission Housing Cover and 5th Gear. Refer to

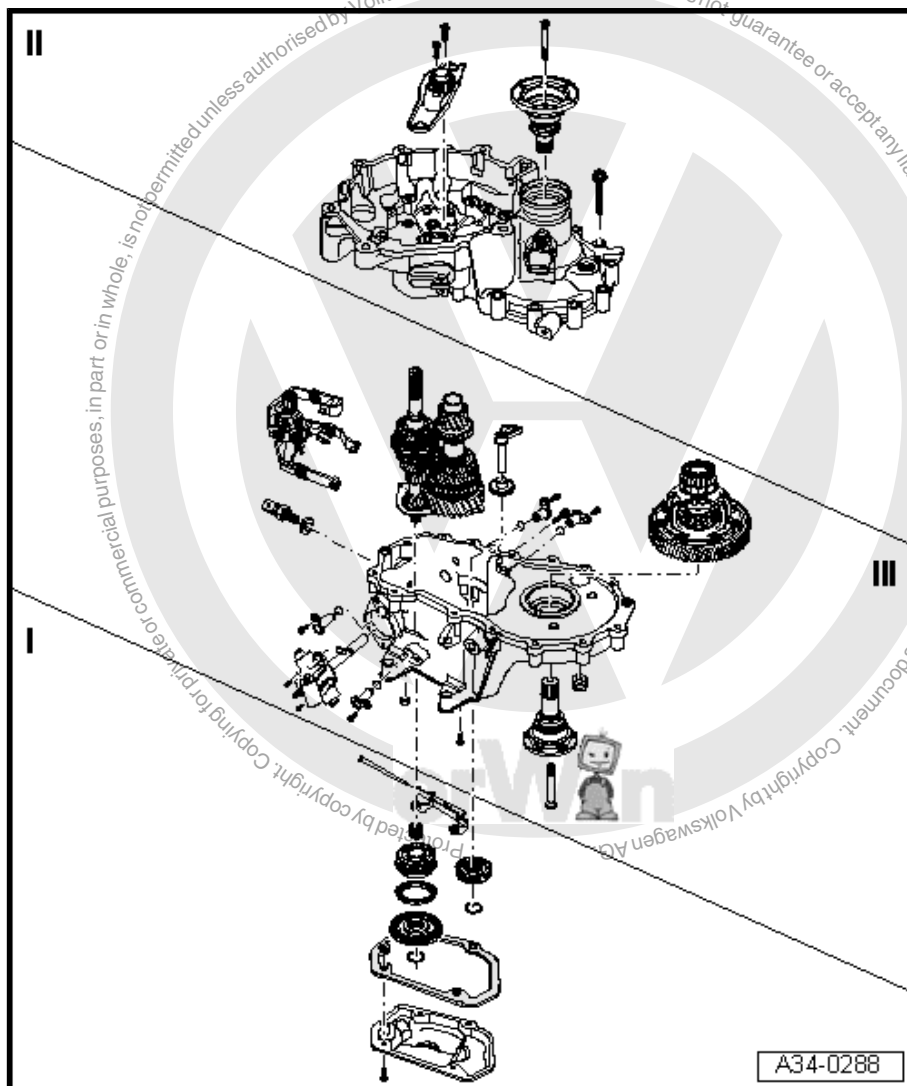
⇒ [“6.3 Overview - Transmission Housing Cover and 5th Gear, Removing and Installing”, page 114](#) .

II - Overview - Removing and Installing Clutch Housing. Refer to

⇒ [“6.4 Overview - Clutch Housing, Removing and Installing”, page 115](#) .

III - Overview - Input Shaft, Output Shaft, Differential Selector Mechanism and Shift Rods Removing and Installing. Refer to

⇒ [“6.5 Overview - Input Shaft, Output Shaft, Differential Selector Mechanism and Shift Rods, Removing and Installing”, page 116](#) .





6.3 Overview - Transmission Housing Cover and 5th Gear, Removing and Installing

1 - Transmission Housing

2 - 5th Gear Wheel

- ☐ Installation position. Refer to [⇒ page 125](#) .

3 - Circlip

- ☐ Replace after removing
- ☐ Selecting thickness. Refer to [⇒ page 125](#) .

4 - Seal

5 - Transmission Housing Cover

- ☐ If the transmission housing cover is installed when transmission is installed, check the fluid level and fill if necessary. Refer to [⇒ "5 Transmission Fluid, Checking", page 111](#) .

6 - Bolt

- ☐ 5 Nm and 90° additional turn
- ☐ Replace after removing

7 - Circlip

- ☐ Replace after removing
- ☐ Selecting thickness. Refer to [⇒ page 125](#) .

8 - Synchronizer Hub with Locking Collar and Stop Ring for 5th Gear

- ☐ Disassembling and assembling. Refer to [⇒ "1.1 Input Shaft, Disassembling and Assembling", page 149](#) .

9 - 5th Gear Synchronizer Ring

10 - 5th Gear Wheel

11 - Needle Bearing

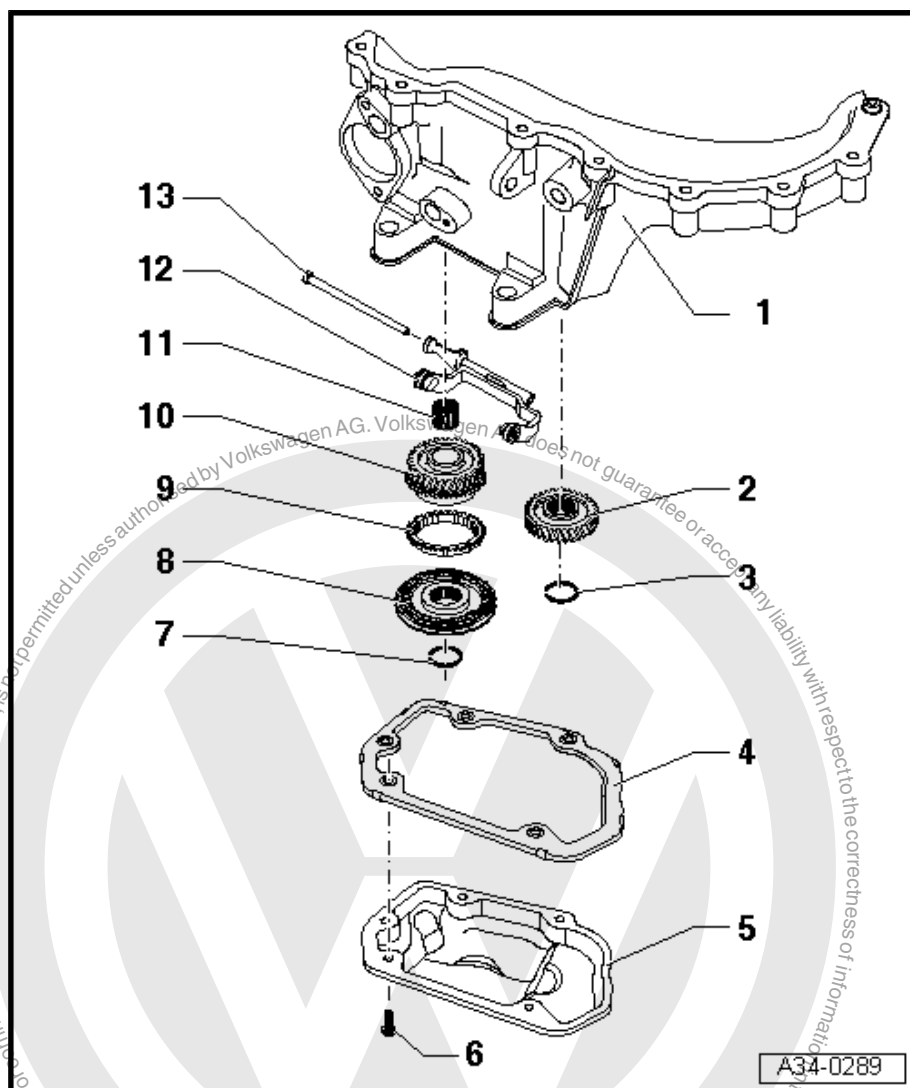
- ☐ For 5th gear

12 - 5th Gear Shift Fork

- ☐ Disassembling and assembling. Refer to [⇒ "9 Shift Forks, Disassembling and Assembling", page 133](#) .

13 - Mounting Pin

- ☐ For 5th gear shift fork





6.4 Overview - Clutch Housing, Removing and Installing

1 - Bolt

- ❑ 25 Nm

2 - Flange Shaft with Pressure Spring

- ❑ Removing and installing. Refer to
⇒ ["6.6 Disassembly and Assembly Sequence"](#),
[page 117](#) .
- ❑ Assembling. Refer to
⇒ ["2.1 Differential, Disassembling and Assembling"](#),
[page 173](#) .

3 - Bolt

- ❑ 5 Nm and 90° additional turn
- ❑ Replace after removing

4 - Clutch Housing

- ❑ Servicing. Refer to
⇒ ["7 Transmission Housing and Clutch Housing, Servicing"](#),
[page 127](#) .

5 - Transmission Housing

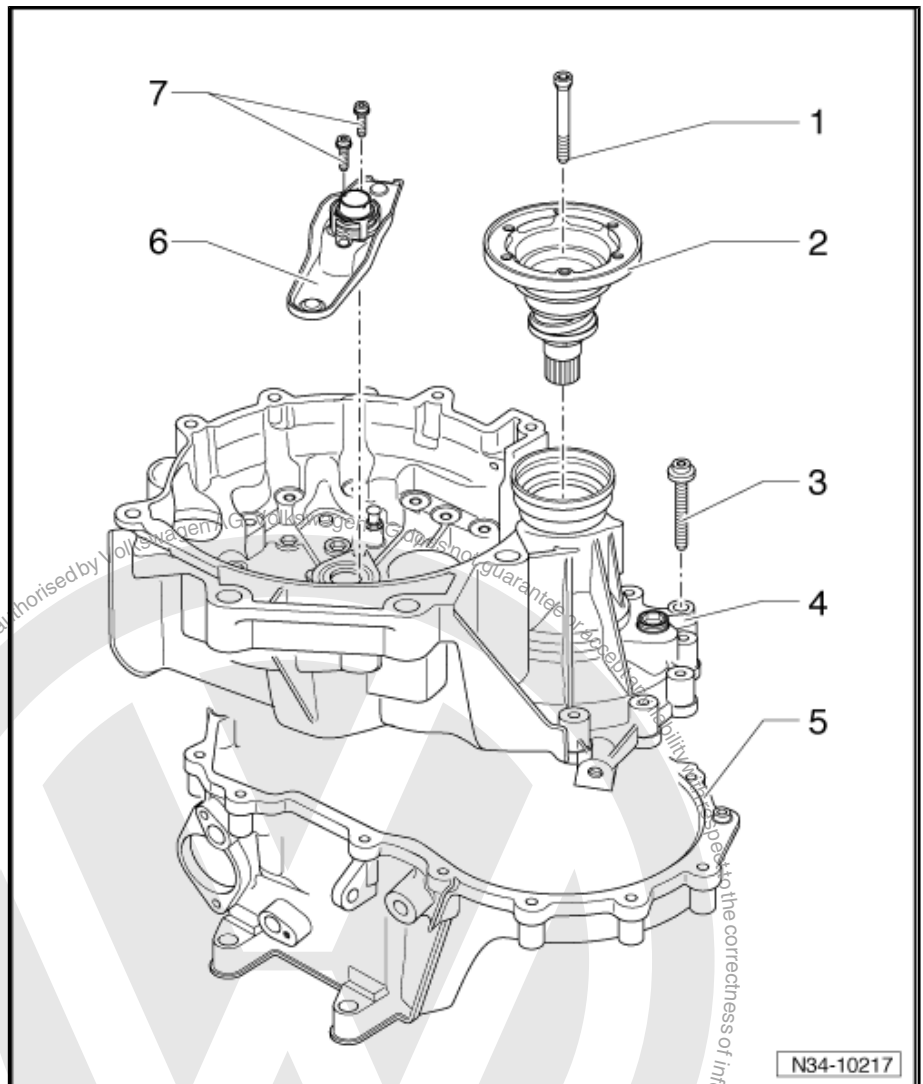
- ❑ Servicing. Refer to
⇒ ["7 Transmission Housing and Clutch Housing, Servicing"](#),
[page 127](#) .

6 - Clutch Release Lever

- ❑ With guide sleeve and release bearing
- ❑ Removing and installing. Refer to
⇒ ["4.2 Clutch Release Lever with Release Bearing and Guide Sleeve, Removing and Installing"](#),
[page 44](#) .

7 - Bolt

- ❑ Information and tightening specification: -item 2- ⇒ [Item 2 \(page 43\)](#) .





6.5 Overview - Input Shaft, Output Shaft, Differential Selector Mechanism and Shift Rods, Removing and Installing

1 - Differential

- ☐ Disassembling and assembling. Refer to [⇒ "2.1 Differential, Disassembling and Assembling", page 173](#).

2 - Transmission Housing

- ☐ Servicing. Refer to [⇒ "7 Transmission Housing and Clutch Housing, Servicing", page 127](#).
- ☐ Shim S₁ for the differential outer race/tapered roller bearing if deleted from transmission date of manufacture 04/12/2006. Refer to [⇒ Fig. "Shim S₁ for the outer race/tapered roller bearing is deleted as of production date 04/12/2006", page 179](#).
- ☐ Outer race/tapered roller bearing seat adapted in transmission housing

3 - Oil Drain Plug

- ☐ Tightening specification. Refer to [⇒ Fig. "Different Versions of Fluid Fill and Drain Plugs", page 111](#)

4 - Flange Shaft with Pressure Spring

- ☐ Removing and installing. Refer to [⇒ "6.6 Disassembly and Assembly Sequence", page 117](#).
- ☐ Assembling. Refer to [⇒ "2.1 Differential, Disassembling and Assembling", page 173](#).

5 - Bolt

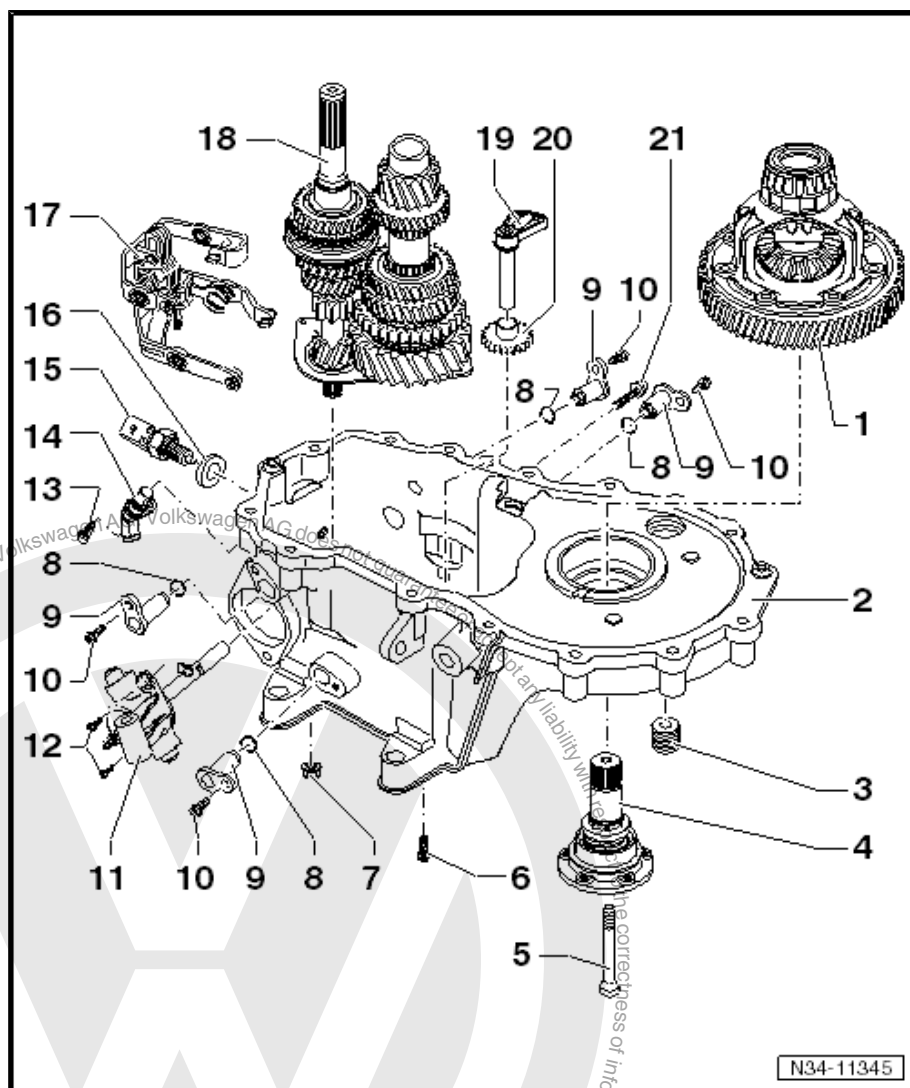
- ☐ 25 Nm

6 - Bolt

- ☐ 5 Nm and 90° additional turn
- ☐ Self-locking
- ☐ Replace after removing
- ☐ for securing bearing mount with grooved ball bearing for input and output shaft -item 18- [⇒ Item 18 \(page 117\)](#)

7 - Hex Collar Bolt

- ☐ 23 Nm
- ☐ For shift mechanism -item 17- [⇒ Item 17 \(page 117\)](#)
- ☐ Self-locking
- ☐ Replace after removing





8 - O-Ring

- ☐ Replace after removing

9 - Pivot Pin

10 - Bolt

- ☐ 5 Nm and 90° additional turn
- ☐ Replace after removing

11 - Gearshift Shaft with Gearshift Cover

- ☐ (Shift unit)
- ☐ Servicing. Refer to ➤ ["8 Shift Unit, Servicing", page 131](#) .

12 - Bolt

- ☐ 5 Nm and 90° additional turn
- ☐ Replace after removing

13 - Bolt

- ☐ 6 Nm

14 - Transmission Neutral Position Sensor - G701-

- ☐ For vehicles with the Start/Stop System

15 - Back-Up Lamp Switch - F4-

- ☐ 20 Nm
- ☐ Short after series introduction of transmission with permanent seal

16 - Seal

- ☐ If present, replace after removing
- ☐ Not installed on all transmissions

17 - Selector Mechanism

- ☐ (Shift forks)
- ☐ Servicing. Refer to ➤ ["9 Shift Forks, Disassembling and Assembling", page 133](#) .

18 - Input Shaft with Output Shaft and Bearing Mount/Grooved Ball Bearing

- ☐ If bearing mount is removed from transmission housing, it must always be replaced
- ☐ Bearing Mount, Removing and Installing. Refer to -item 8- ➤ [Item 8 \(page 150\)](#)
- ☐ Input Shaft, Disassembling and assembling. Refer to ➤ ["1.1 Input Shaft, Disassembling and Assembling", page 149](#)
- ☐ Output Shaft, Disassembling and assembling. Refer to ➤ ["2.1 Output Shaft, Disassembling and Assembling", page 158](#)

19 - Reverse Gear Axle

20 - Reverse Drive Gear

21 - Bolt

- ☐ 25 Nm and 45° additional turn
- ☐ Replace after removing
- ☐ For securing reverse gear axle

6.6 Disassembly and Assembly Sequence

➤ ["6.6.1 Transmission, Disassembling", page 117](#)

➤ ["6.6.2 Transmission, Assembling", page 121](#)

6.6.1 Transmission, Disassembling

Special tools and workshop equipment required

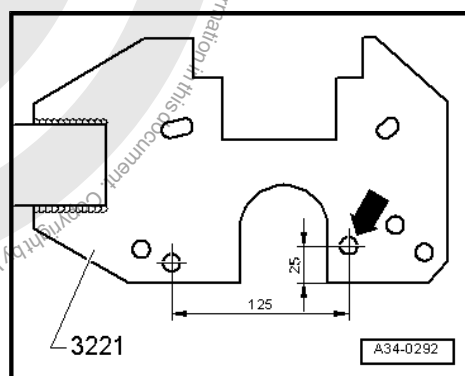
- ◆ Holding Fixture - VW313-



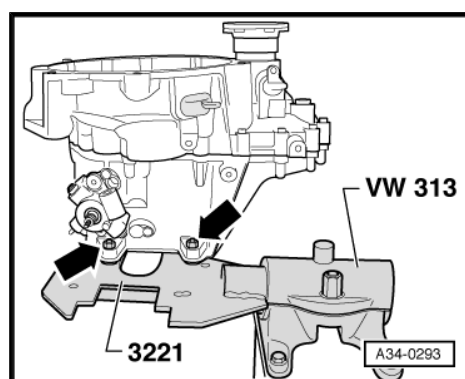
- ◆ Press Plate - VW401-
- ◆ Press Plate - VW402-
- ◆ Press Piece - Rod - VW412-
- ◆ Gearbox Support - 3221- (modifying. Refer to [page 118](#))
or
- ◆ Gearbox Support - 3221A-
- ◆ Guide Pin - T10079-
- ◆ Not needed: Press Piece - 31.5mm - VW418A-
- ◆ Press Piece - Rod - VW407-
- ◆ Bearing Installer - Wheel Bearing/Ball Bearing - 3074-
- ◆ Press Piece - T10080-
- ◆ Press Piece - Block - T10083-
- ◆ Press Piece - Block - Washer - T10083/1-
- ◆ Shop Crane - Drip Tray , for example -VAS6208-
- ◆ Press Piece - T10085-

Removing transmission housing cover, clutch housing, selector shaft with selector cover, input shaft, output shaft, differential and selector mechanism.

- Check the Gearbox Support - 3221A- and if necessary modify.
- If necessary drill a 11.0 mm diameter hole -arrow-.
- The label the Gearbox Support - 3221- as -3221A- .



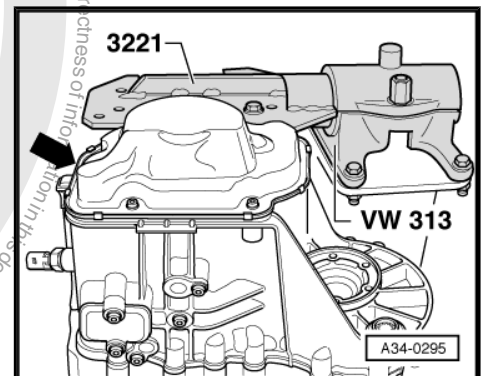
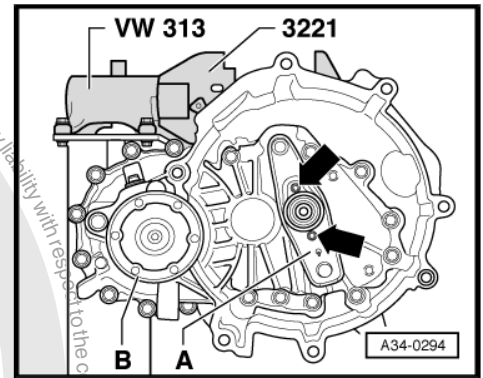
- Secure the transmission on the Gearbox Support - 3221A- -arrows-.
- Place the Shop Crane - Drip Tray , for example -VAS6208- underneath.
- Drain the transmission fluid.



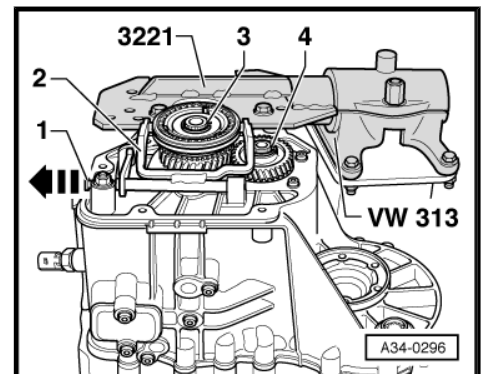


- Remove the clutch release lever -A- with the release bearing and guide sleeve -arrows-.
- Remove the right flange shaft securing bolt -B-.
- Install 2 bolts into the flange and counterhold the flange shaft with a pry bar.
- Remove the flange shaft with spring, thrust washer and tapered ring.

Remove the transmission housing cover -arrow-.



- Remove the mounting pin -1- for the 5th gear shift fork -2- and remove the shift fork.
- Remove the 5th gear synchronizer hub locking ring -3-.
- Remove the locking ring -4- from the 5th gear wheel.
- Remove the 5th gear synchronizer hub and drive gear.



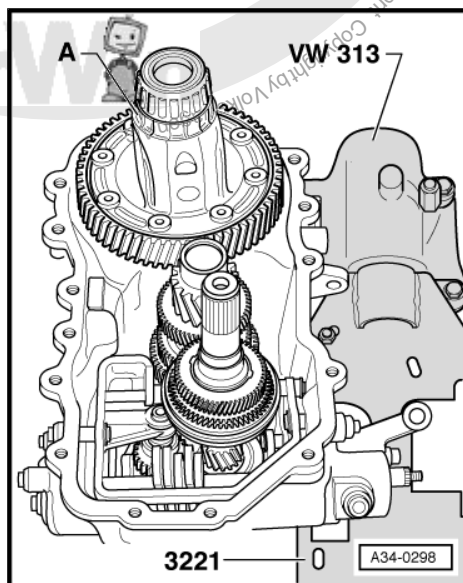
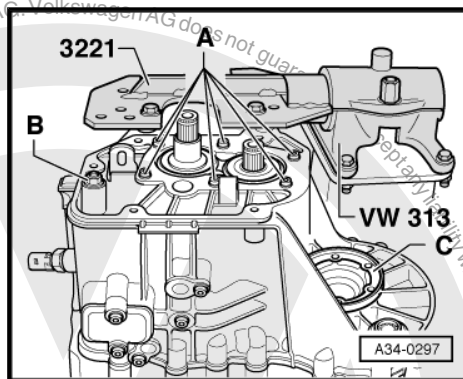


- Remove the input and output shaft bearing mount securing bolts -A-.
- Remove the shift mechanism hex collar bolt nut B- (secures reverse gear).
- Remove bolts for left flange shaft -C-, by installing two bolts into the flange and counter-holding flange shaft using a tire iron.
- Remove the flange shaft -C- with spring.
- Turn the transmission in mounting bracket and the clutch housing upward.
- Remove the securing bolts that secure transmission housing from inside clutch housing.
- Carefully pry off the clutch housing all around while alternating sides on protruding flange, do not damage sealing surfaces.

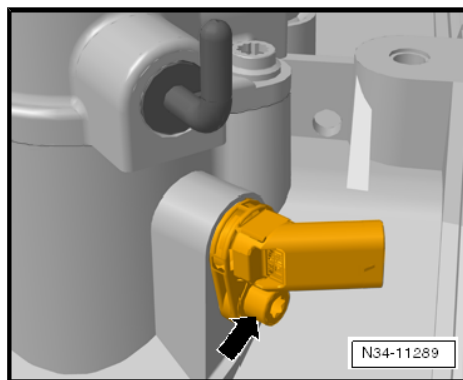


Note

- ◆ *Do not tilt clutch housing.*
- ◆ *The roller bearing and the bearing seat on the input and output shafts must not be damaged.*
- Remove the differential -A- from the transmission housing.

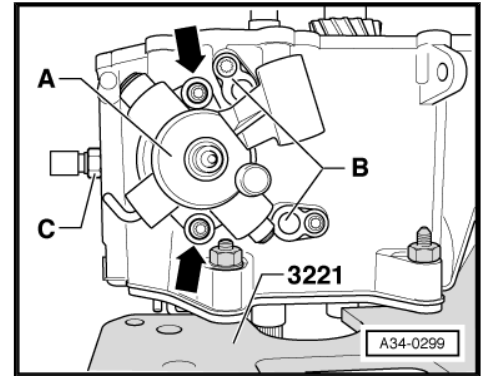


- Transmission on vehicles with Stop/Start system: remove the Transmission Neutral Position Sensor - G701- -arrow-.





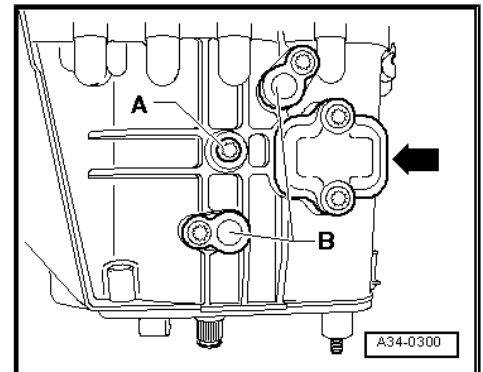
- Remove the selector shaft and cover -A-. Move the gearshift shaft into neutral. Remove the bolts -arrows- and pull the gearshift shaft out of the transmission housing.
- Remove the mounting pins -B- from the top of the transmission.
- Remove the Back-Up Lamp Switch - F4- -C-.



- Remove the bolt -A- for securing the reverse drive gear axle.
- Remove the mounting pins -B- on bottom side of transmission.

i Note

Do not remove the sealing cap -arrow- to disassemble the transmission.

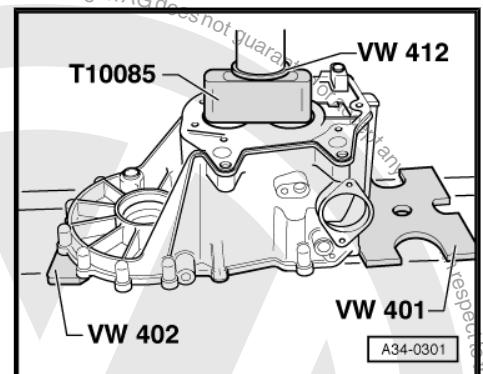


- Remove the input and output shafts together with bearing mount, shift mechanism (shift forks) and reverse gear.

i Note

- ◆ *Position the transmission housing so as not to damage the fitting sleeves.*
- ◆ *When removing the components, have a 2nd technician there to keep them from falling down.*

- Remove the input and output shafts from the bearing mount with grooved ball bearing. Refer to
⇒ [Fig. "Remove the Bearing Mount and Grooved Ball Bearing", page 152](#).



6.6.2 Transmission, Assembling

Special tools and workshop equipment required

- ◆ Holding Fixture - VW313-
- ◆ Press Plate - VW401-
- ◆ Press Plate - VW402-
- ◆ Press Piece - Rod - VW412-
- ◆ Gearbox Support - 3221- (modifying. Refer to [page 118](#)) or
- ◆ Gearbox Support - 3221A-
- ◆ Guide Pin - T10079-
- ◆ Not needed: Press Piece - 31.5mm - VW418A-
- ◆ Press Piece - Rod - VW407-
- ◆ Bearing Installer - Wheel Bearing/Ball Bearing - 3074-
- ◆ Press Piece - T10080-



- ◆ Press Piece - Block - T10083-
- ◆ Press Piece - Block - Washer - T10083/1-
- ◆ Shop Crane - Drip Tray , for example -VAS6208-
- ◆ Press Piece - T10085-

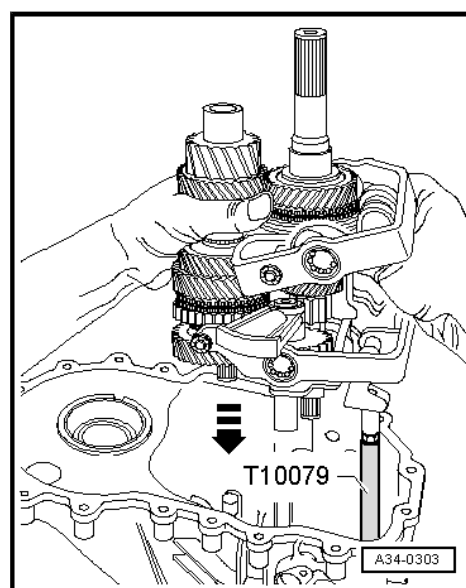
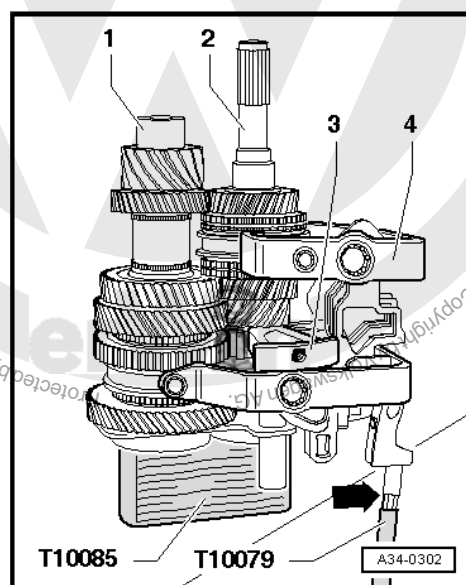
Installing transmission housing cover, clutch housing, selector shaft with selector cover, input shaft, output shaft, differential and selector mechanism.



Note

- ◆ Install the bearing mount with grooved ball bearing onto the input and output shafts. Refer to ➔ [page 155](#) .
 - ◆ Install the 5th gear drive gear needle bearing sleeve onto the input shaft. Refer to ➔ [Fig. "Install the 5th Gear Needle Bearing Sleeve -A-." , page 156](#) .
 - Place assembled input shaft -2-, output shaft -1- with bearing mount/grooved ball bearing in Press Piece T10085- .
 - Install the shift mechanism (shift forks) -4- into the shaft locking collars.
 - Install the reverse gear axle -3- with reverse gear.
 - Attach the Guide Pin - T10079- to the threaded pins (secures reverse gear) -arrow-.
-
- Install the components into the transmission housing. Guide the Guide Pin - T10079- through the hole for the securing the gearshift mechanism in the transmission housing.
 - Remove the Guide Pin - T10079- .

Note the Following before Pressing In:





- ◆ Shift forks are engaged correctly inside the locking collars.
- ◆ The reverse gear shift fork is engaged correctly in the reverse drive gear.
- ◆ Check the splines on the output shaft dimension -a-



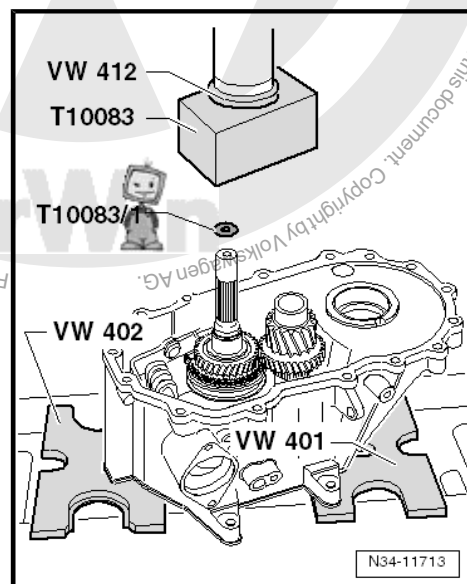
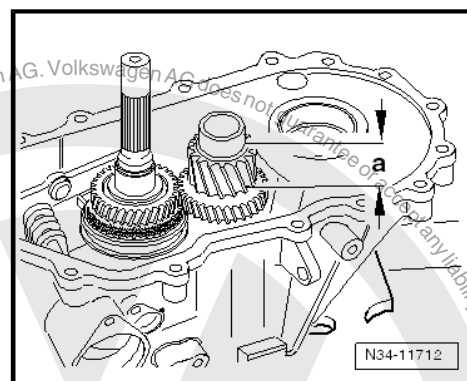
Note

- ◆ Due to the varying spline height, the output shafts of individual transmissions have different -a- lengths.
- ◆ So that the output shaft and input shaft are always pressed in the same if necessary a Press Piece - Block - Washer - T10083/1- (3 mm thick) must be placed on the input shaft.
- ◆ For this reason the splines on the output shaft dimension -a- must be measured.

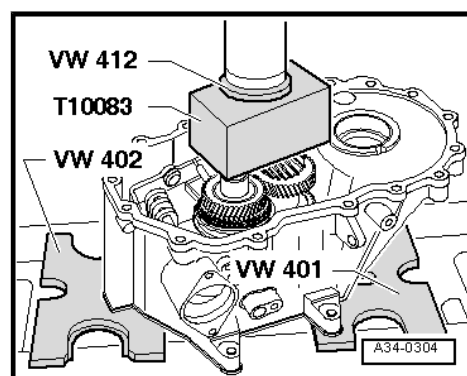
Dimension -a- = 30.6 mm

Place the Press Piece - Block - Washer - T10083/1- on the driveshaft → next illustration.

Place the Press Piece - Block - Washer - T10083/1- on both the input shaft and the bearing mount and press in with the input and output shaft until stop.

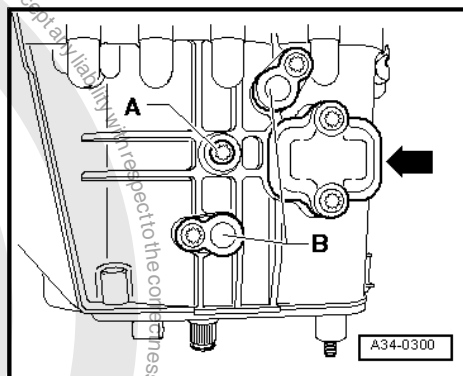


Carefully pressing bearing mount in together with input and output shaft as far as stop.

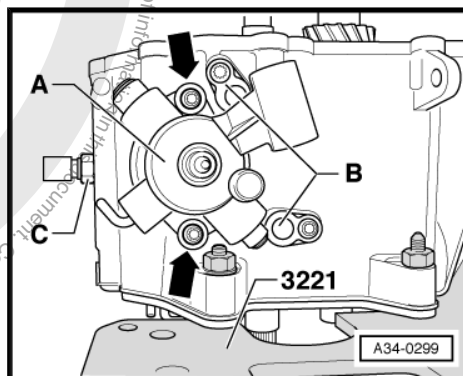




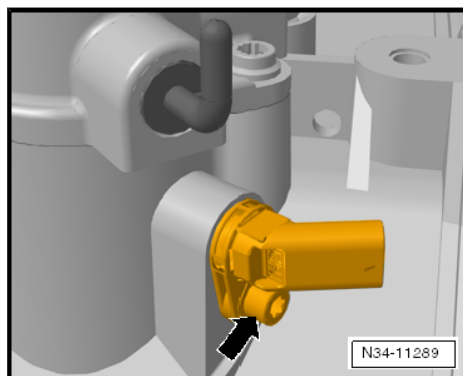
- Install the reverse gear axle bolt -A-.
- Install the mounting pins -B- in the bottom of the transmission.



- Install the Back-Up Lamp Switch - F4- -C-.
- Install the mounting pins -B- on the top of the transmission.
- Move the gearshift rail into the neutral position.
- Apply Sealing Paste - AMV 188 200 03- evenly onto the gearshift cover sealing surface.
- Install the selector shaft with the selector cover -A-. Tighten the bolts -arrows-.



- Transmission on vehicles with Stop/Start system: install the Transmission Neutral Position Sensor - G701- -arrow- and tighten the screw to the tightening specification. Refer to [⇒ "6.5 Overview - Input Shaft, Output Shaft, Differential Selector Mechanism and Shift Rods, Removing and Installing", page 116](#).



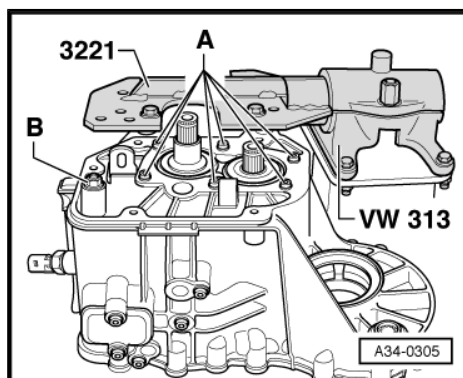
- Attach the input and output shaft bearing mount with new bolts -A-.



Note

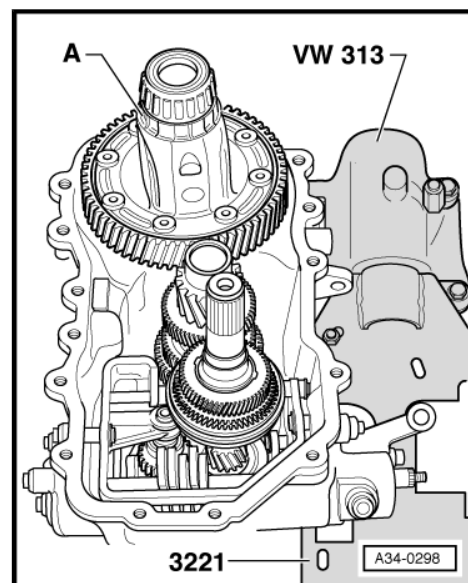
Tighten to tightening specification diagonally and in stages starting at the center.

- Tighten shift mechanism (shift forks) hex collar nut -B-.





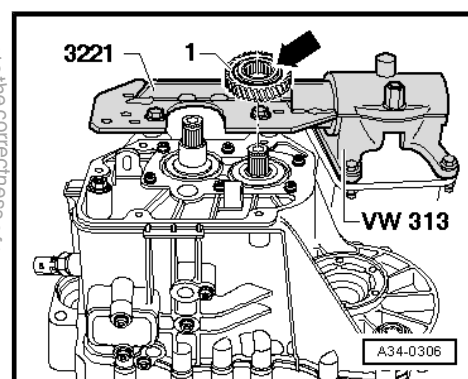
- Install the differential -A-.
- Apply Sealing Paste - AMV 188 200 03- evenly onto the sealing surface.
- Tighten the clutch housing to the transmission housing.
- Turn the transmission in the mounting bracket with transmission housing upward.



Installed Position of Drive Gear for 5th Gear -1-:

High inner collar -arrow- faces toward transmission housing cover.

- Position 5th gear wheel -1-.
- Install 5th gear wheel with needle bearing.
- Place the 5th gear synchronizer ring onto the selector gear.
- Position 5th gear synchronizer cover together with locking collar and stop ring.



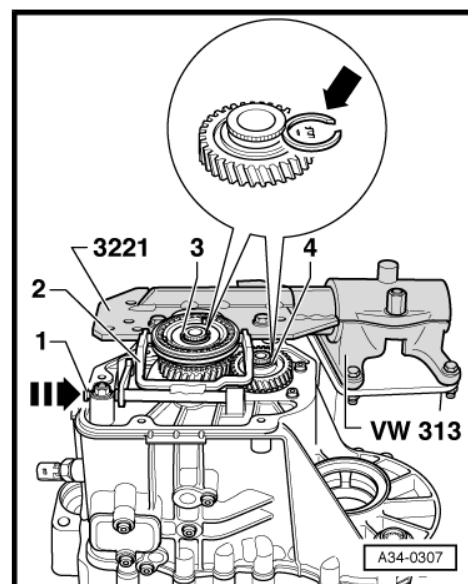
- Insert 5th gear shift fork -2- and slide in mounting pins -1- as far as stop direction of -arrow-.

- Select a new locking ring -arrow-.
- Determine thickest circlip that can still be inserted for input shaft -3- and output shaft -4- and insert.

For the available circlips. Refer to the Parts Catalog.

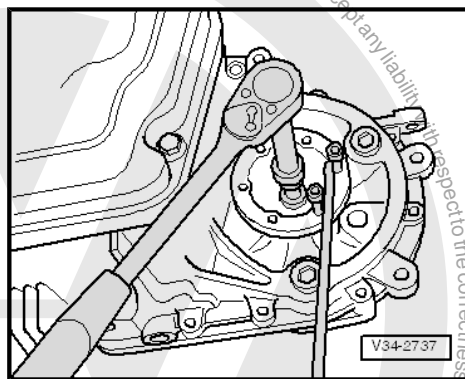
Thickness (mm)
2.00
2.10
2.20

- Install the transmission housing cover.





- Install both flange shafts, the pressure springs, the thrust washers and the tapered rings.
- Install the clutch release lever together with release bearing and guide sleeve. Refer to
⇒ ["4.2 Clutch Release Lever with Release Bearing and Guide Sleeve, Removing and Installing", page 44](#) .





7 Transmission Housing and Clutch Housing, Servicing

Special tools and workshop equipment required

- ◆ Press Piece - Rod - VW408A-
- ◆ Press Piece - Multiple Use Spacer Sleeve - VW472/2-
- ◆ Centering/Press Pin - 12-551-
- ◆ Press Piece - Pad - 30-555-
- ◆ Threaded rod from the Seal Installer - Driver Set - 3066-
- ◆ Press Piece - Pivot Mount Bushing - 3124-
- ◆ Centering/Press Pin - 12-551-
- ◆ Bearing Installer - Crankshaft Needle Bearing Mandrel - 2026-
- ◆ Seal Installer - Drive axle - T40008-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Puller - Kukko Puller - 60-150mm Width, 200mm Length - 18/1-
- ◆ Puller - Kukko Quick Action Separating Tool - 12-75mm - 17/1-

1 - Sleeve

- ☐ For the selector shaft
- ☐ Removing. Refer to
⇒ Fig. "Gearshift Shaft
Sleeve -A-, Remov-
ing", page 130
- ☐ Installing. Refer to
⇒ Fig. "Gearshift Shaft
Sleeve -A-, Installing",
page 130

2 - Alignment Sleeve

3 - Magnet

- ☐ Held in place by housing
joint surface

4 - Cap

- ☐ Apply Sealing Com-
pound - AMV 188 200
03- to the sealing sur-
face before installing.

5 - Circlip

- ☐ insert in roller bearing
groove

6 - Circlip

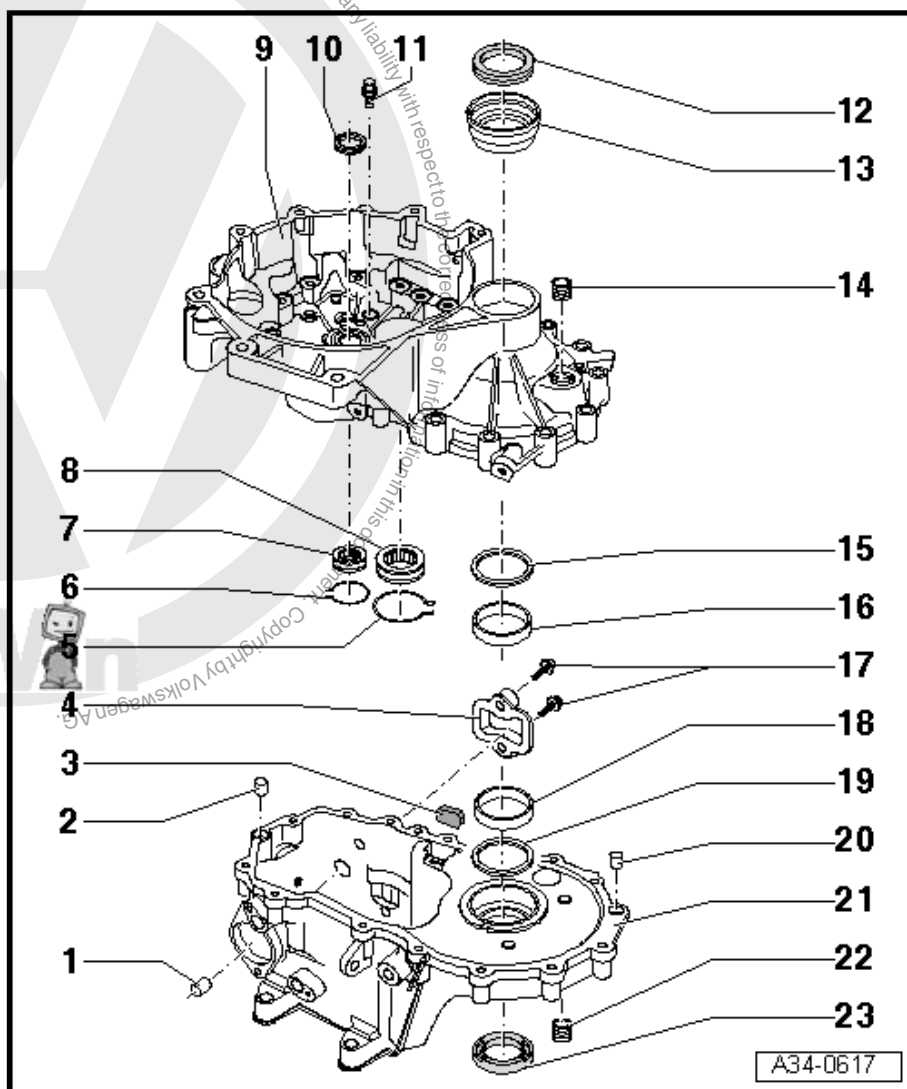
- ☐ insert in roller bearing
groove

7 - Cylindrical Roller Bearing

- ☐ For the input shaft
- ☐ Removing and installing
-item 21-
⇒ Item 21 (page 151)

8 - Cylindrical Roller Bearing

- ☐ For the output shaft





- ☐ Removing and installing -item 2- ⇒ [Item 2 \(page 159\)](#)

9 - Clutch Housing

- ☐ When replacing: adjust the differential. Refer to ⇒ [“2.2 Differential, Adjusting”, page 178](#)

10 - Input Shaft Seal

- ☐ Pry out with a screwdriver
- ☐ Installing. Refer to ⇒ [Fig. ““Installing the Seal for the Input Shaft””, page 129](#)

11 - Ball Stud

- ☐ 20 Nm
- ☐ Remove grease already present
- ☐ Grease using the Grease for Clutch Disc Shaft Splines - G 000 100-

12 - Right Flange Shaft Seal

- ☐ Replace when the transmission is installed. Refer to
⇒ [“1.2 Right Flange Shaft Seal, Replacing”, page 171](#) .

13 - Sleeve

- ☐ For seal
- ☐ Removing. Refer to ⇒ [Fig. ““Sealing Ring Sleeve, Removing””, page 129](#) .
- ☐ Installing. Refer to ⇒ [Fig. ““Sealing Ring Sleeve, Pulling In””, page 129](#) .

14 - Oil Filler Plug

- ☐ Tightening specification: ⇒ [Fig. ““Different Versions of Fluid Fill and Drain Plugs””, page 111](#)

15 - Shim S₂

- ☐ For the differential
- ☐ Selecting thickness. Refer to ⇒ [“2.2 Differential, Adjusting”, page 178](#) .

16 - Outer Race/Tapered Roller Bearing

- ☐ For the differential
- ☐ Removing from the clutch housing and installing
⇒ [“2.1 Differential, Disassembling and Assembling”, page 173](#)
- ☐ When replacing: adjust the differential. Refer to ⇒ [“2.2 Differential, Adjusting”, page 178](#)

17 - Bolt

- ☐ 5 Nm and 90° additional turn
- ☐ Replace after removing

18 - Outer Race/Tapered Roller Bearing

- ☐ For the differential
- ☐ Removing from the transmission housing and installing. Refer to
⇒ [“2.1 Differential, Disassembling and Assembling”, page 173](#)
- ☐ When replacing: adjust the differential. Refer to ⇒ [“2.2 Differential, Adjusting”, page 178](#)

19 - Shim S₁

- ☐ For the differential
- ☐ Always 1 mm thick
- ☐ Shim S₁ is deleted as of production date 12/04/2006

Refer to
⇒ [Fig. ““Shim S₁ for the outer race/tapered roller bearing is deleted as of production date 04/12/2006.””, page 179](#)

- ☐ Outer race/tapered roller bearing seat adapted in transmission housing

20 - Alignment Sleeve

21 - Transmission Housing

- ☐ Shim S₁ is deleted as of production date 12/04/2006. Refer to
⇒ [Fig. ““Shim S₁ for the outer race/tapered roller bearing is deleted as of production date 04/12/2006.””, page 179](#)



- ☐ Outer race/tapered roller bearing seat adapted in transmission housing
- ☐ When replacing: adjust the differential. Refer to ➤ [“2.2 Differential, Adjusting”, page 178](#)

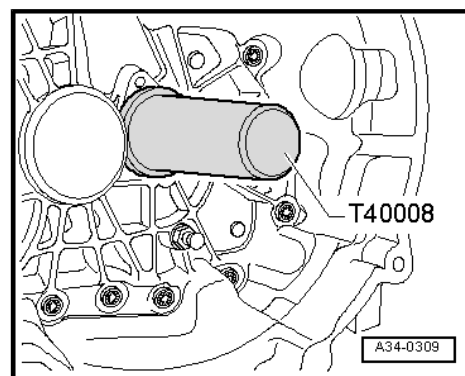
22 - Oil Drain Plug

- ☐ Tightening specification. Refer to ➤ [Fig. “Different Versions of Fluid Fill and Drain Plugs”](#), page 111

23 - Seal

- ☐ For the left flange shaft
- ☐ Replace when the transmission is installed. Refer to ➤ [“1.1 Left Flange Shaft Seal, Replacing”, page 170](#).

Installing the Seal for the Input Shaft

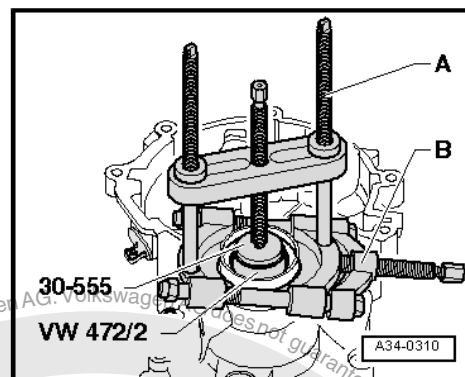


Sealing Ring Sleeve, Removing

- Place the Press Piece - Multiple Use - Spacer Sleeve - VW472/2- und Press Piece - Pad - 30-555- on the differential.

-A- = Puller - Kukko Puller - 60-150mm Width, 200mm Length - 18/1-

-B- = Puller - Kukko Quick Action Separating Tool - 12-75mm - 17/1-



Sealing Ring Sleeve, Pulling In

A - Threaded studs from Seal Installer - Driver Set - 3066- installed in differential threaded piece

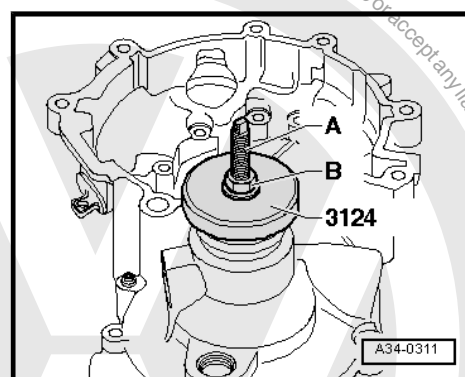
B - M12 nut with washer

- Turn the nut -B- and pull the sleeve all the way over the Press Piece - Pivot Mount Bushing - 3124-



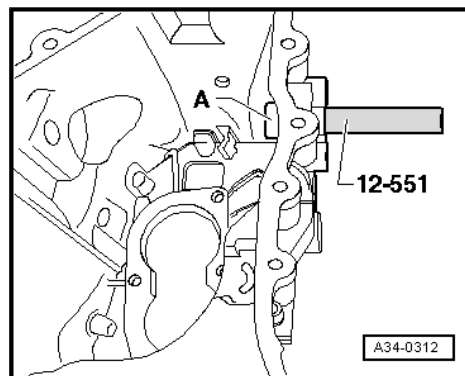
Note

If transmission is disassembled, press sleeve in onto stop using Press Piece - Pivot Mount Bushing - 3124-.

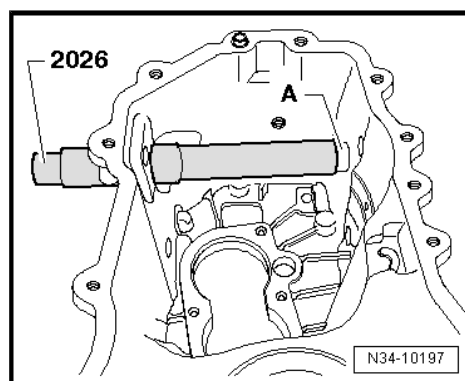




Gearshift Shaft Sleeve -A-, Removing



Gearshift Shaft Sleeve -A-, Installing





8 Shift Unit, Servicing

Special tools and workshop equipment required

- ◆ Press Piece - Shift Rod/Alternator - VW423-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Breather Tube Tool - T10203-

1 - Sleeve

- ☐ For the selector shaft
- ☐ Removing. Refer to
⇒ [Fig. "Gearshift Shaft Sleeve -A-, Removing", page 130](#)
- ☐ Installing. Refer to
⇒ [Fig. "Gearshift Shaft Sleeve -A-, Installing", page 130](#)

2 - Gearshift Shaft with Gearshift Cover

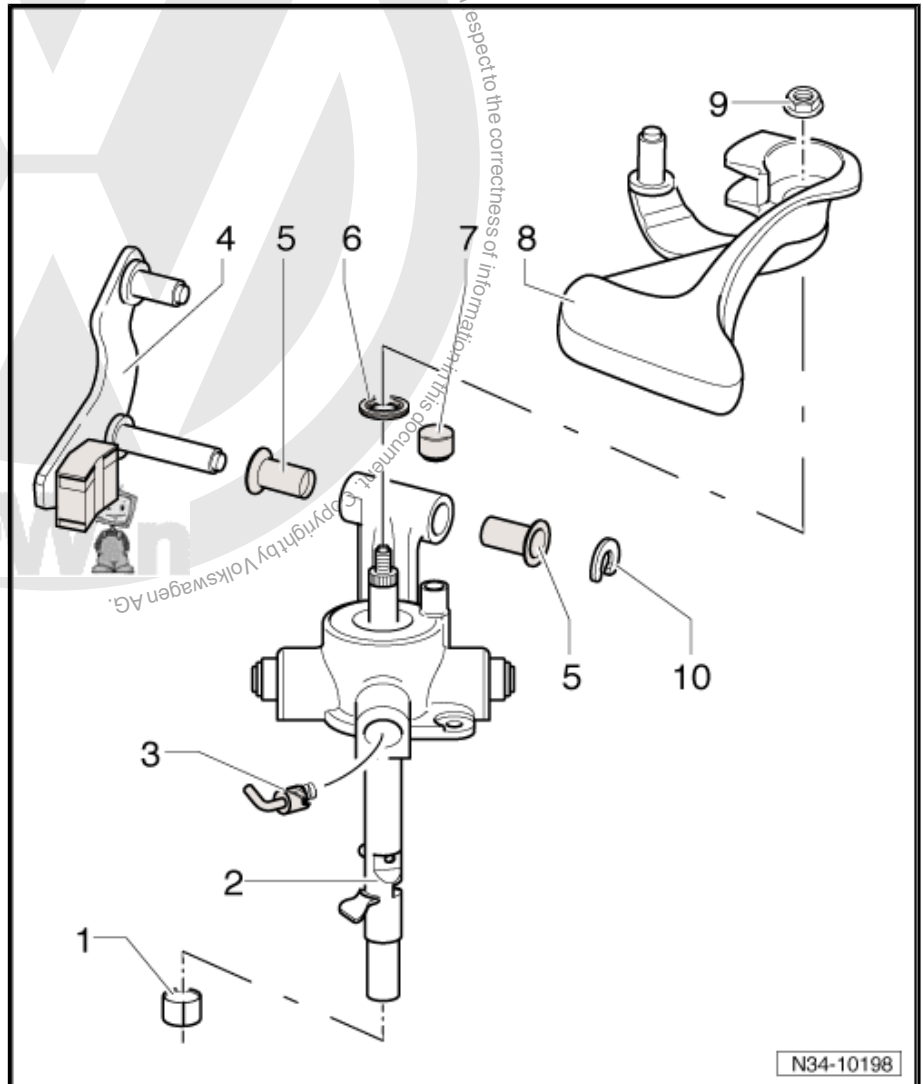
- ☒ replace together

3 - Locking Elbow

- ☐ For adjusting the shift mechanism
- ☐ Removing. Refer to
⇒ [Fig. "Removing the locking elbow -A- from the shift cover", page 132](#) .
- ☐ Installing. Refer to
⇒ [Fig. "Drive the locking elbow in the shift cover.", page 132](#)

4 - Relay Lever

- ☐ Installation position. Refer to
⇒ [Fig. "Selector lever/relay lever installed position", page 70](#) .
- ☐ Plastic relay lever from 05/2007. Refer to
⇒ ["1.11 Plastic Relay Lever", page 78](#) .



5 - Bearing Bushing

- ☐ Not needed for the plastic relay lever

6 - Seal

- ☐ For the selector shaft
- ☐ Pry out with a screwdriver
- ☐ Inserting. Refer to ⇒ [Fig. "Insert sealing ring -A- as far as stop", page 132](#)

7 - Cap

- ☐ For the transmission ventilation

8 - Selector Lever

- ☐ Installing. Refer to ⇒ [Fig. "Installing the transmission shift lever", page 69](#) .
- ☐ Can be replaced with the shift mechanism still installed
- ☐ Installation position. Refer to ⇒ [Fig. "Selector lever/relay lever installed position", page 70](#) .



- ❑ Adjust the gearshift mechanism after installing. Refer to
⇒ ["1.10 Selector Mechanism, Adjusting", page 76](#) .

9 - Hex Nut

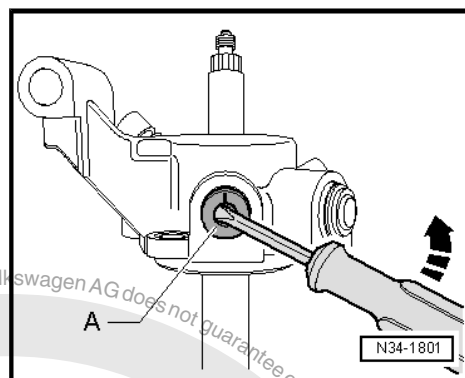
- ❑ 23 Nm
- ❑ Self-locking
- ❑ Replace after removing

10 - Lock Washer

- ❑ Replace after removing
- ❑ Not needed for the plastic relay lever

Removing the locking elbow -A- from the shift cover

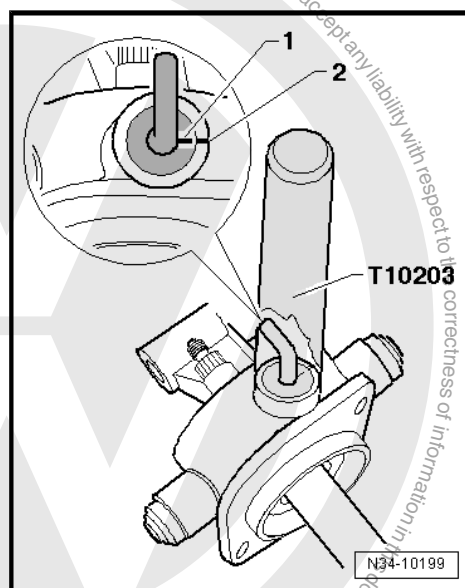
- Remove the outer part of the locking elbow.
- Pry out the locking elbow with a screwdriver.



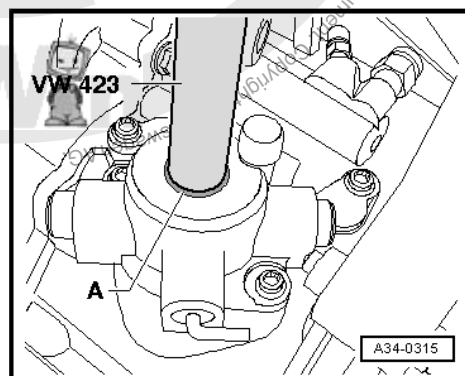
Drive the locking elbow in the shift cover.

Installation position:

Marking-1- faces toward marking -2- on selector cover.



Insert sealing ring -A- as far as stop





9 Shift Forks, Disassembling and Assembling

Special tools and workshop equipment required

- ◆ Press Plate - VW402-
- ◆ Subframe Support Tool - Press Piece - 3290/1-
- ◆ Press Piece - Multiple Use - VW431-
- ◆ Subframe Bushing Tool Kit - 3301-
- ◆ Press Piece - Multiple Use Spacer Sleeve - VW472/2-
- ◆ Valve Guide/Clutch Release Push Rod Seal Drift - 10-206-
- ◆ Assembly Mandrel for Gear Selector Rod - 10-508-
- ◆ Pry Lever - 80-200-
- ◆ Spring Strut Compressor - 2070-



Note

The shift fork group (-item 1- ➔ [Item 1 \(page 134\)](#)) does not need to be disassembled to remove and install shift segments, lock washers and angular contact ball bearings.



1 - Shift Fork Group with Gear-shift Rails

2 - 3rd/4th Gear Shift Segment

- ☐ Identification. Refer to [⇒ Fig. "Identification of selector segments and 5th gear shift fork with selector segments", page 135](#).
- ☐ Selector segment must still rotate easily after assembly

3 - Angular Contact Ball Bearing

- ☐ Quantity: 4
- ☐ Removing. Refer to [⇒ Fig. "Removing the Angular Contact Ball Bearing", page 136](#).
- ☐ Installing the bearing inner race into the outer race. Refer to [⇒ Fig. "Installing the angular contact ball bearing inner race -A- into the outer race", page 136](#)
- ☐ Installing. Refer to [⇒ Fig. "Installing the angular contact ball bearing into the shift fork", page 136](#).

4 - Lock Washer

- ☐ Replace after removing
- ☐ Removing. Refer to [⇒ Fig. "Removing the lock washer", page 135](#).
- ☐ Installing. Refer to [⇒ Fig. "Installing the lock washer", page 135](#).

5 - 1st/2nd Gear Shift Segment

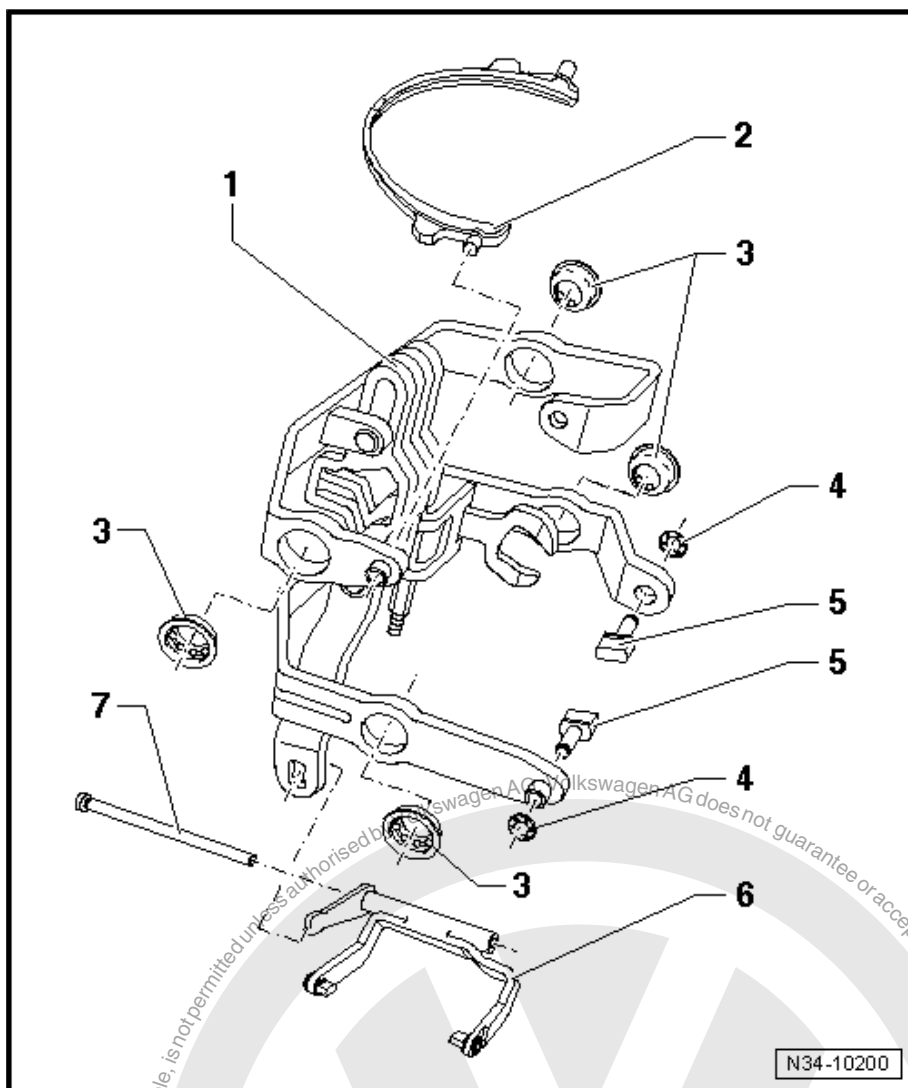
- ☐ Identification. Refer to [⇒ Fig. "Identification of selector segments and 5th gear shift fork with selector segments", page 135](#).
- ☐ The shift segment must still rotate easily after the lock washer is installed.
- ☐ Shift fork with selector segment

6 - 5th Gear Shift Fork with Selector Segments

- ☐ Selector segments are connected to shift fork and cannot be separated.
- ☐ Identification. Refer to [⇒ Fig. "Identification of selector segments and 5th gear shift fork with selector segments", page 135](#)

7 - Mounting Pin

- ☐ for 5th gear shift fork

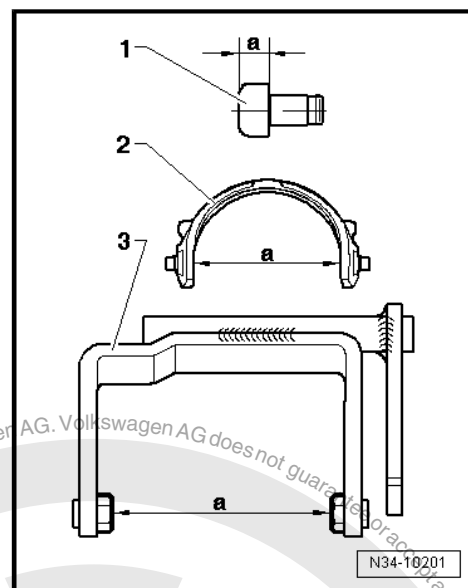




Identification of selector segments and 5th gear shift fork with selector segments

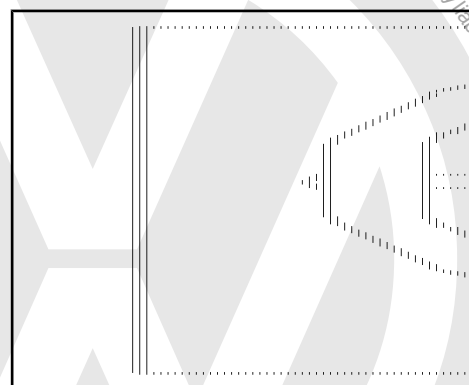
Dimension -a-

- 1 - 1st/2nd Gear Shift Segments = 10.2 mm
- 2 - 3rd/4th Gear Shift Segment = 78.6 mm
- 3 - 5th Gear Shift Fork with Shift Segments = 79.5 mm



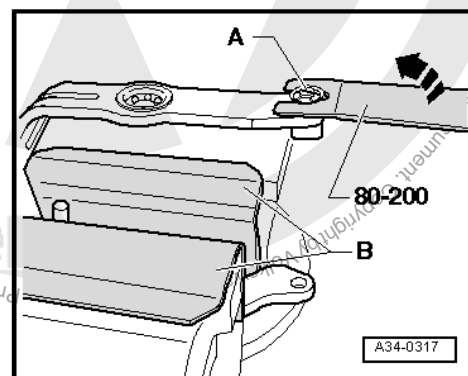
1st/2nd gear shift fork with shift segments

Dimension -a- = 75 mm



Removing the lock washer

- Secure shift fork in vise with protective jaws -B-.
- Pry off the lock washer -A- in the direction of the -arrow-.



Installing the lock washer

- Press the lock washer in the groove in the shift segment using a socket wrench

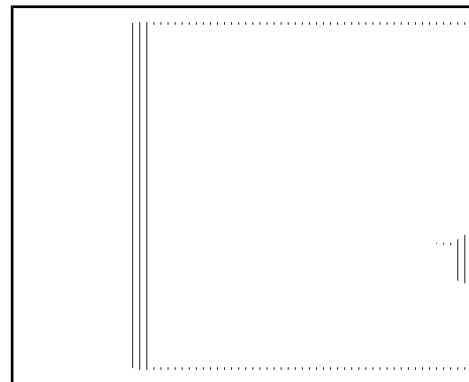


Note

The shift segment must still rotate easily after the lock washer is installed.

A - 10 mm socket wrench

B - Protective Jaws



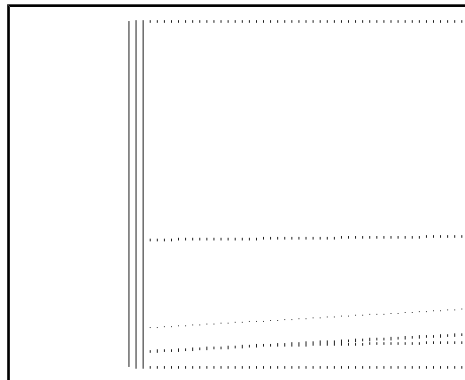


Removing the Angular Contact Ball Bearing



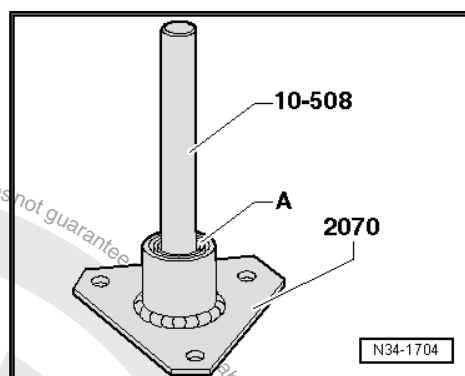
Note

Be careful not to bend the shift forks when removing and installing the angular contact ball bearing.



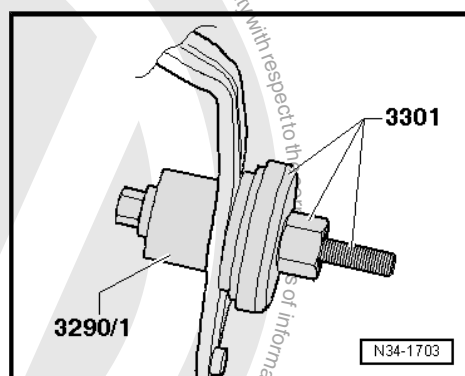
Installing the angular contact ball bearing inner race -A- into the outer race

The bearing inner race must engage with outer race.



Installing the angular contact ball bearing into the shift fork

The recess in the Subframe Support Tool - Press Piece - 3290/1-point to the ball bearing.

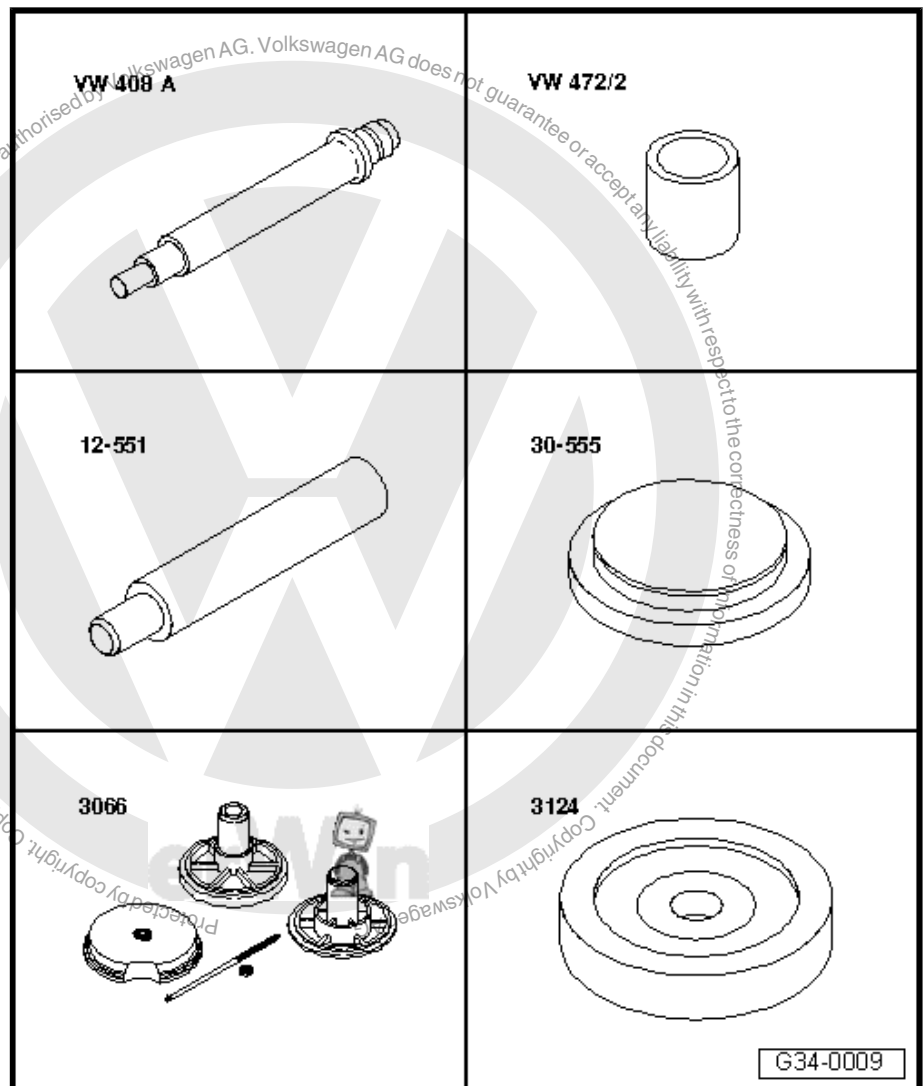




10 Special Tools

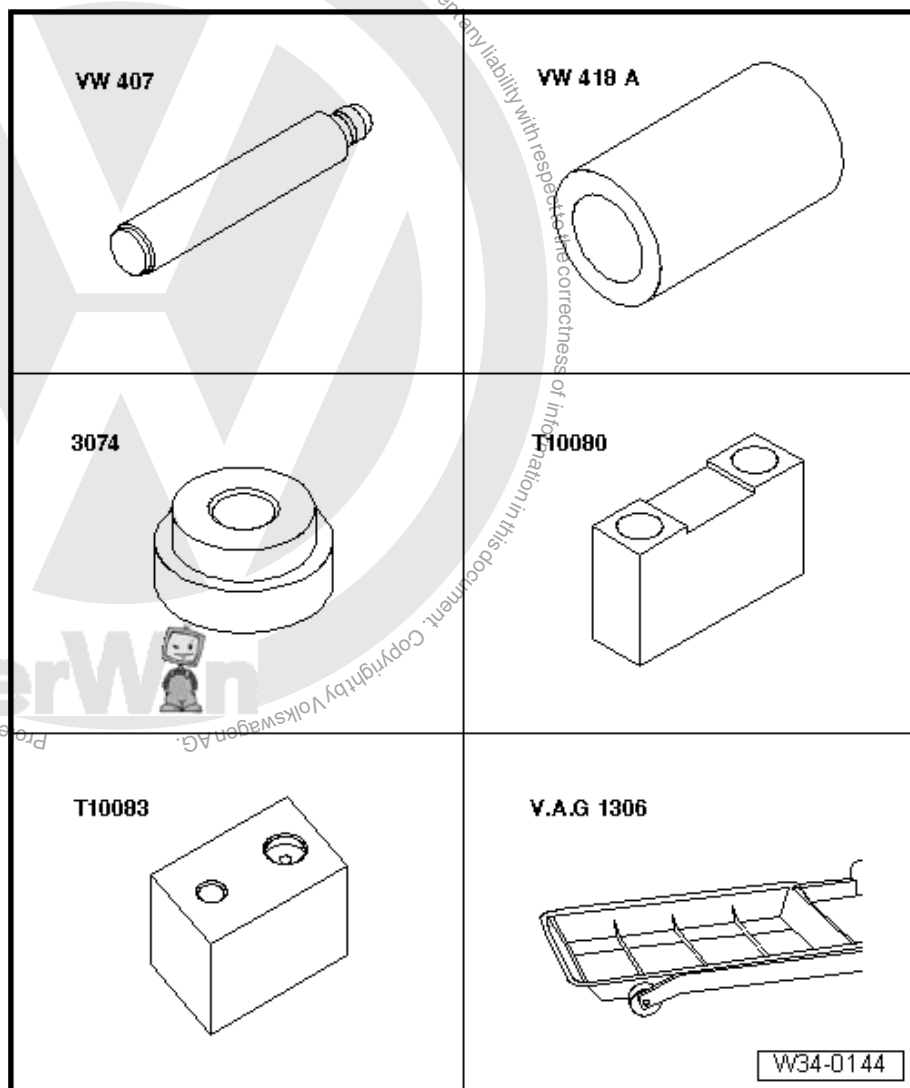
Special tools and workshop equipment required

- ◆ Centering/Press Pin - 12-551-
- ◆ Press Piece - Pad - 30-555-
- ◆ Threaded piece from the Seal Installer - Driver Set - 3066-
- ◆ Press Piece - Pivot Mount Bushing - 3124-
- ◆ Punch - VW408A-
- ◆ Spacing Sleeve - VW472/2-



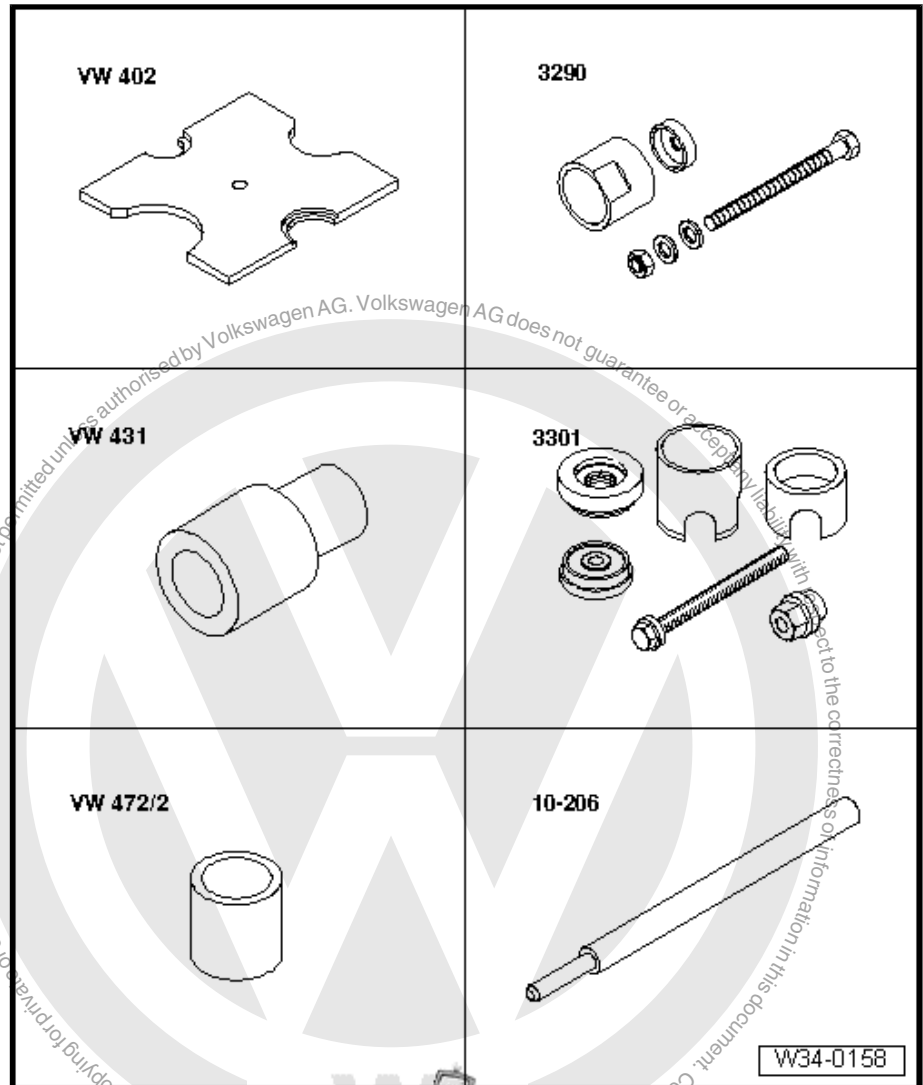


- ◆ Not needed: Press Piece - 31.5mm - VW418A-
- ◆ Thrust Pad - 3074-
- ◆ Press Piece - T10080-
- ◆ Thrust Block - T10083-
- ◆ Press Piece - Block - Washer - T10083/1-
- ◆ Drip Tray - VAG1306-
- ◆ Punch - VW407-



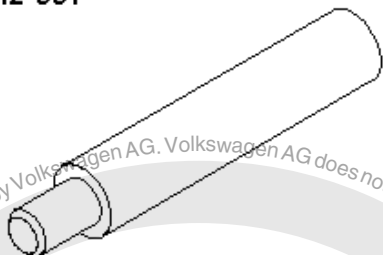
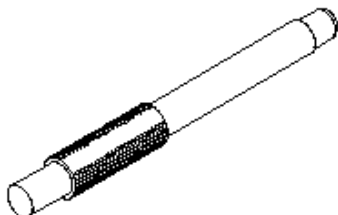
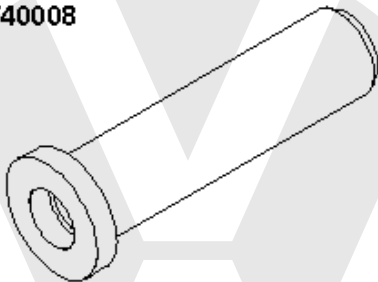




- ◆ Press Plate - VW402-
- ◆ Press Piece - Multiple Use
- VW431-
- ◆ Spacing Sleeve - VW472/2-
- ◆ Thrust Piece - 3290/1-
- ◆ Subframe Bushing Tool Kit
- 3301-
- ◆ Drift - 10-206-





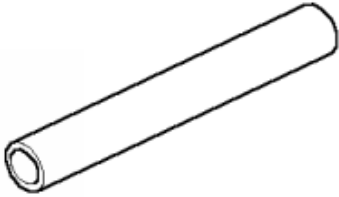

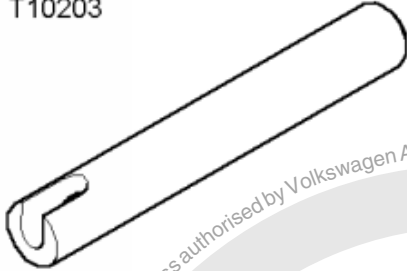
- ◆ Centering/Press Pin - 12-551-
- ◆ Bearing Installer - Crankshaft Needle Bearing Mandrel - 2026-
- ◆ Seal Installer - Drive axle - T40008-
- ◆ Torque Wrench 5-50 Nm - VAG1331-

12-551 	2026 
T40008 	V.A.G 1331 
	

W34-10013



- ◆ Tube 37 mm Diameter - T10203-
- ◆ Thrust Piece - VW423-
- ◆ Torque Wrench 5-50 Nm - VAG1331-

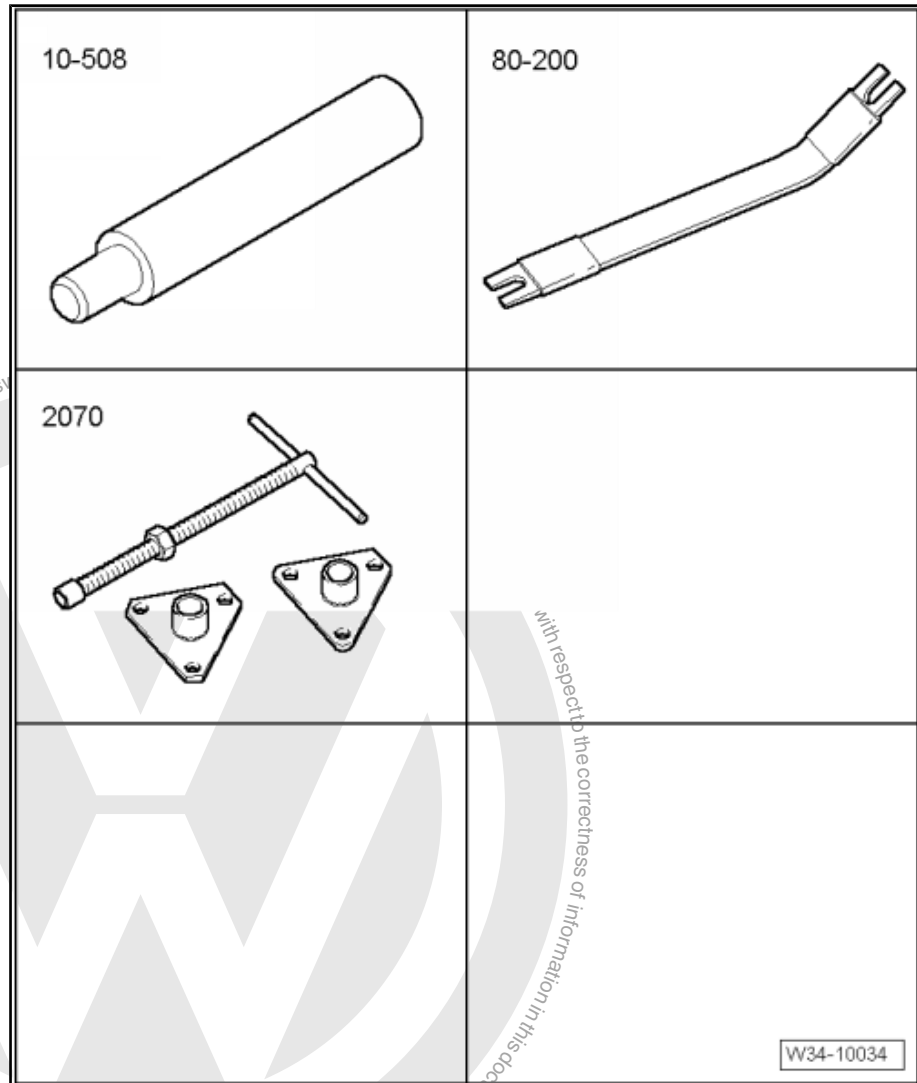
<p>VW 423</p> 	<p>V.A.G 1331</p> 
<p>T10203</p> 	
	<p>W34-10033</p>

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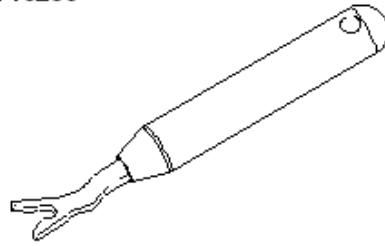
- ◆ Assembly Mandrel - 10-508-
- ◆ Pry Lever - 80-200-
- ◆ Tensioner - 2070-



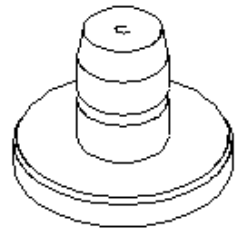


- ◆ Assembly Tool - T10178- or flat iron, 200 x 25 x 5
- ◆ Assembly Tool - T10236-
- ◆ Wedge Tool - T10357-
- ◆ Punch - VW412-
- ◆ Adapter - 10-222A/25- or flat iron, 350 x 30 x 5
- ◆ Counter-Support - 22/4-

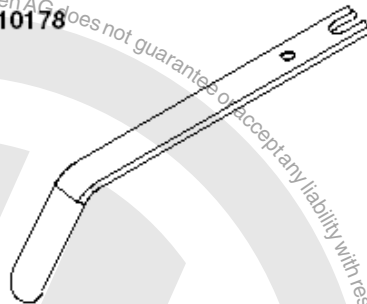
T10236



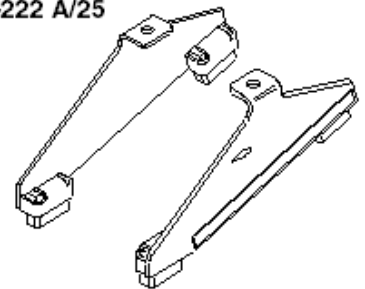
VW 412



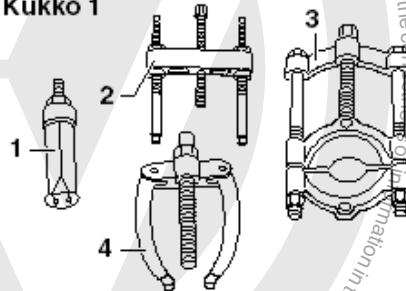
T10178



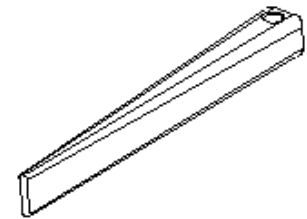
10-222 A/25



Kukko 1



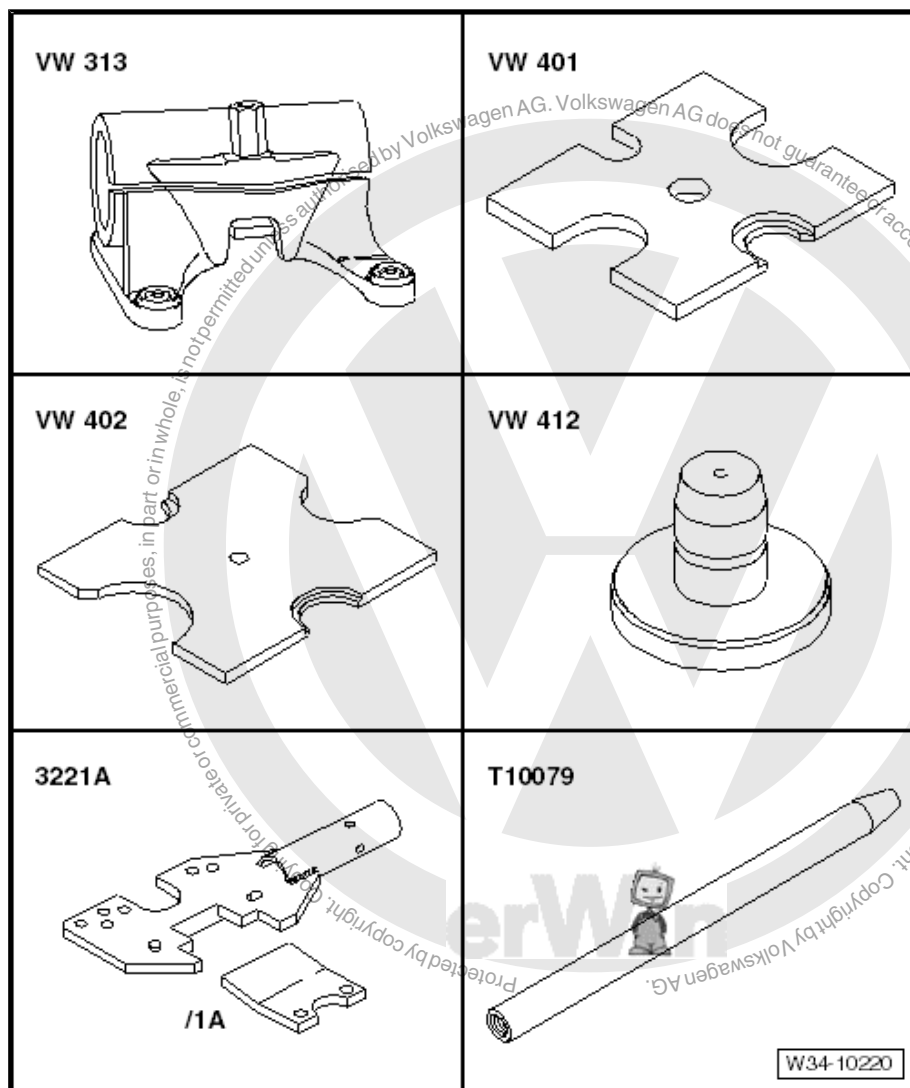
T10357



W34-10219

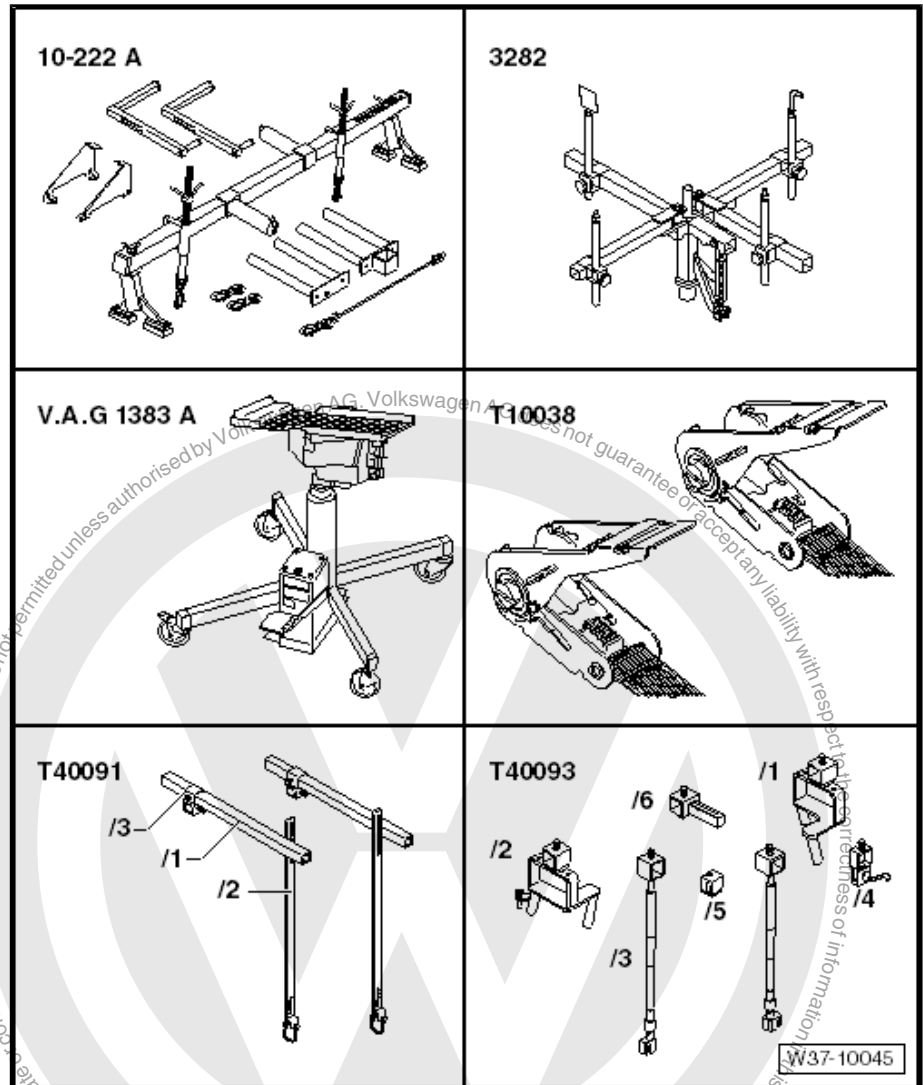


- ◆ Guide Bolt - T10079-
- ◆ Holding Fixture - VW313-
- ◆ Press Plate - VW401-
- ◆ Press Plate - VW402-
- ◆ Press Piece - Rod - VW412-
- ◆ Gearbox Support - 3221- or
- ◆ Gearbox Support - 3221A-

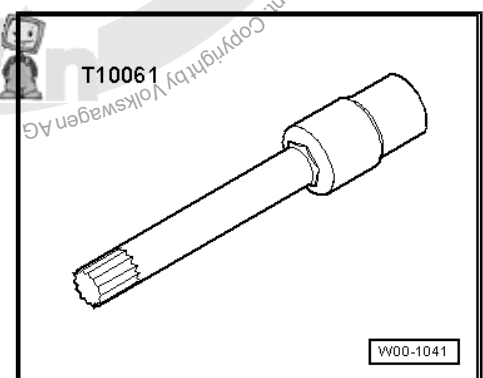




- ◆ Engine Support Bridge - 10-222A-
- ◆ Transmission Support - 3282-
- ◆ Tensioning Strap - T10038-
- ◆ Engine Support Basic Set - T40091-
- ◆ Engine Support Supplement Set - T40093-
- ◆ Engine-Transmission Jack - VAG1383A-
- ◆ Transmission Support Elements

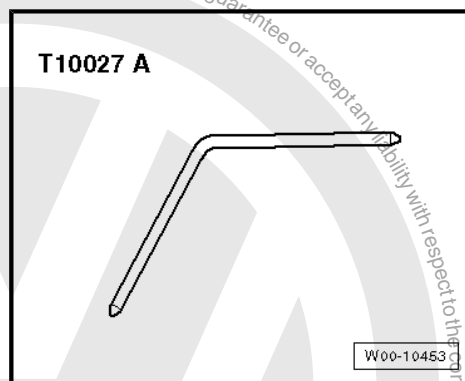


- ◆ Socket, Multi Point Bit XZN 14 - T10061-

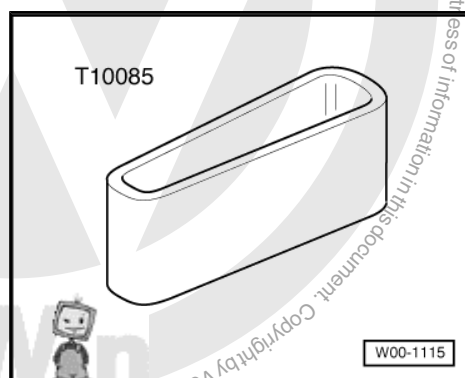




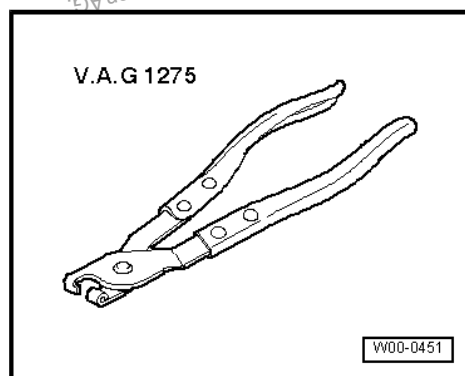
◆ Connecting Pin - T10027A-



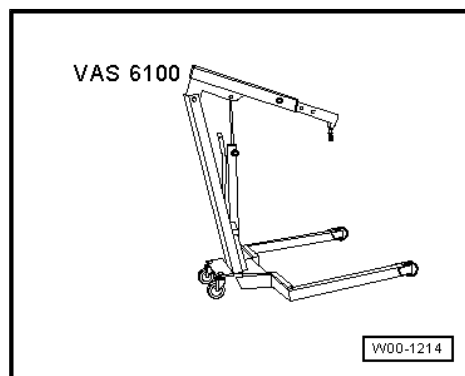
◆ Press Piece - T10085-



◆ Hose Clamp Pliers - VAG1275-



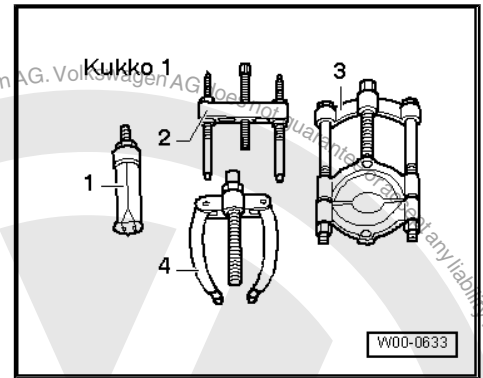
◆ Shop Crane -Load Cap=700-1200Kg - VAS6100-



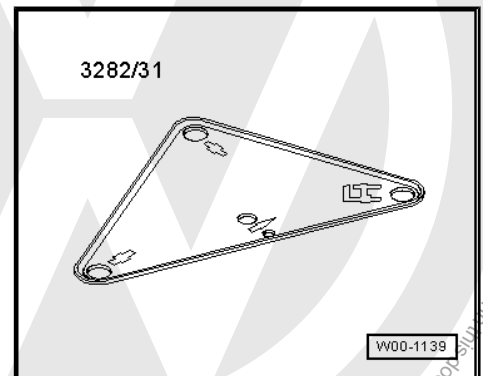
◆ -3- Puller - Kukko Quick Action Separating Tool - 12-75mm - 17/1-



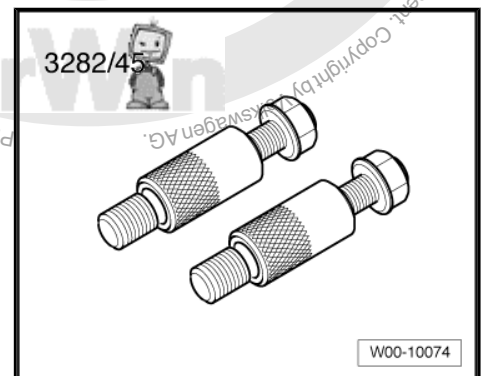
- ◆ -2- Puller - Kukko Puller - 60-150mm Width, 200mm Length - 18/1-



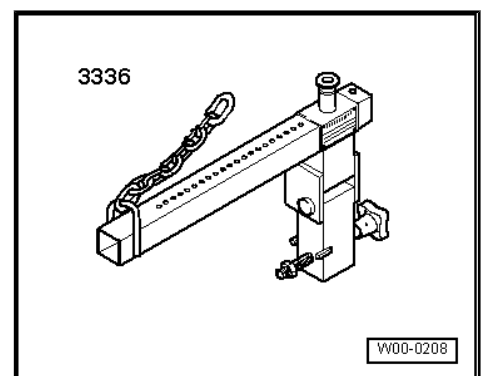
- ◆ Adjusting Plate - 3282/31-



- ◆ Bolt - 3282/45-

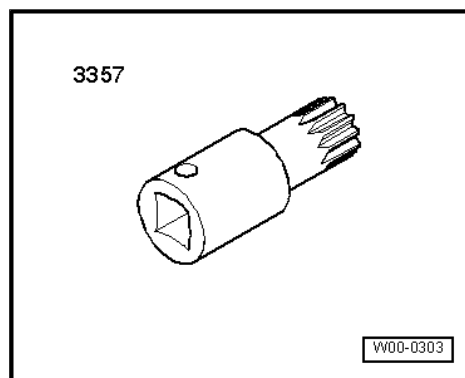


- ◆ Transmission Support Jig. - 3336-





◆ Triple Square Socket Driver - 3357-





35 – Gears, Shafts

1 Input Shaft

⇒ **"1.1 Input Shaft, Disassembling and Assembling", page 149**

1.1 Input Shaft, Disassembling and Assembling

Special tools and workshop equipment required

- ◆ Press Plate - VW401-
- ◆ Press Plate - VW402-
- ◆ Press Piece - Rod - VW407-
- ◆ Press Piece - Multiple Use - VW412-
- ◆ Press Piece - 60mm - VW415A-
- ◆ Press Piece - Shift Rod/Alternator - VW422-
- ◆ Press Piece - Multiple Use Spacer/Sleeve - VW472/2-
- ◆ Press Piece - 42mm - VW516-
- ◆ Press Piece - Multiple Use - 30-23-
- ◆ Press Piece - Press Tube - 30-100-
- ◆ Press Piece - T10080-
- ◆ Press Piece - T10081-
- ◆ Circlip Pliers - VW161A-
- ◆ Press Piece - Trailing arm - 2010-
- ◆ Press Piece - Block - T10083-
- ◆ Press Piece - Block - Washer - T10083/1-
- ◆ Bearing Installer - Bearing Press Plate - T10084A-
- ◆ Puller - Kukko Internal - 28-37mm - 21/5-
- ◆ Puller - Kukko Counterstay - 22/1-
- ◆ Inductive Heater - VAS6414-
- ◆ -Feeler Gauge-



Note

- ◆ *When install new drive gears. Refer to the technical data. Refer to **⇒ "1.2 Codes, Transmission Allocation and Capacities", page 2** and the Parts Catalog.*
- ◆ *Insert all bearings, selector gears and synchronizer rings on input shaft with transmission fluid.*
- ◆ *Do not exchange synchronizer rings, always allocate to original selector gear when reusing.*
- ◆ *Wearing safety gloves, warm the needle bearing sleeve, the gear wheels and the synchronizer hubs to approximately 100 °C (212 °F) using an Inductive Heater - VAS6414- before installing them.*



1 - Circlip

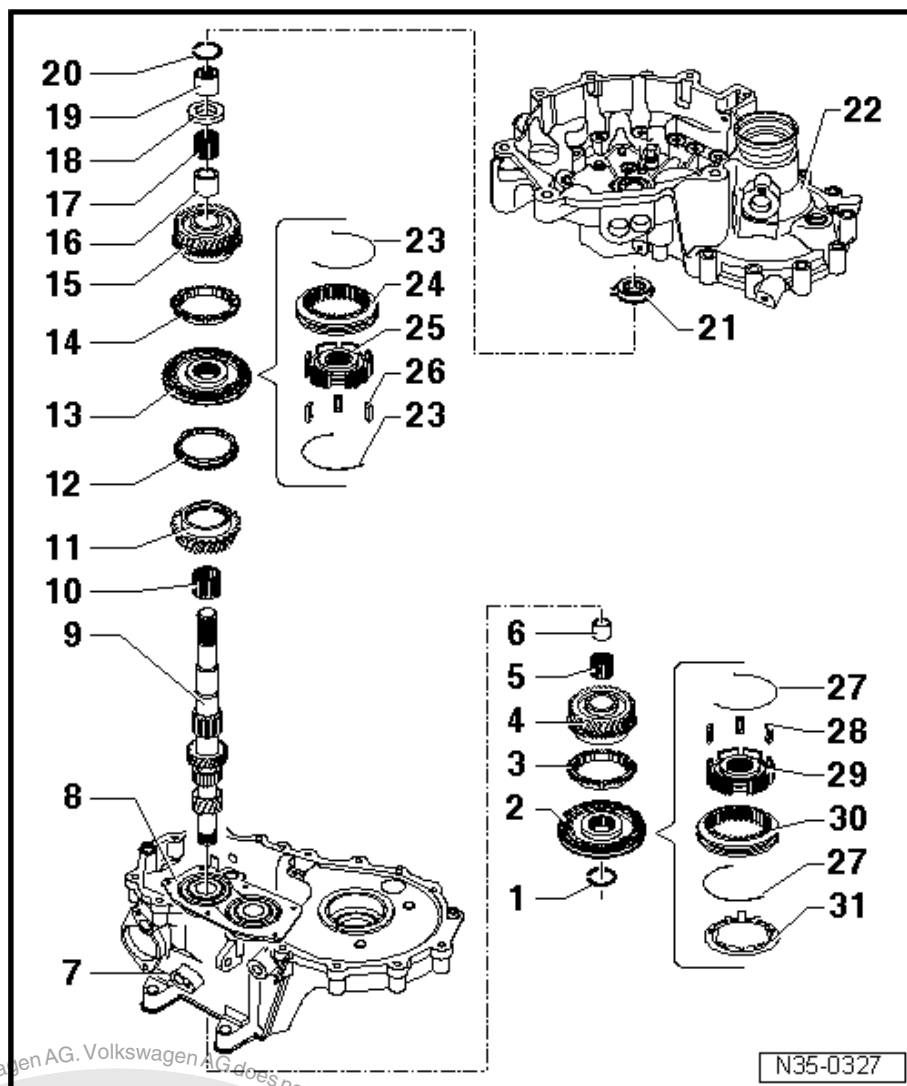
- ☐ Replace after removing
- ☐ Selecting thickness. Refer to [⇒ page 125](#).

2 - Locking Collar with 5th Gear Synchronizer Hub

- ☐ Removing and installing. Refer to [⇒ "6.6 Disassembly and Assembly Sequence", page 117](#).
- ☐ Disassembling. Refer to [⇒ Fig. "Locking Collar and 5th Gear Synchronizer Hub, Disassembling and Assembling", page 157](#).
- ☐ Assembling 5th gear locking collar/synchronizer hub. Refer to [⇒ Fig. "5th Gear Locking Collar/Synchronizer Hub Assembly", page 157](#).
- ☐ Installation position. Refer to [⇒ Fig. "Locking Collar and 5th Gear Synchronizer Hub, Disassembling and Assembling", page 157](#).

3 - 5th Gear Synchronizer Ring

- ☐ Checking for wear. Refer to [⇒ Fig. "Checking Synchronizer Ring for Wear", page 154](#)



4 - 5th Gear Wheel

5 - Needle Bearing

- ☐ For 5th gear
- ☐ Replace together with -item 6- [⇒ Item 6 \(page 150\)](#)

6 - Sleeve

- ☐ For the 5th gear needle bearing
- ☐ replace together with -item 5- [⇒ Item 5 \(page 150\)](#)
- ☐ Remove with bearing mount/grooved ball bearing. Refer to [⇒ Fig. "Remove the Bearing Mount and Grooved Ball Bearing", page 152](#)
- ☐ Installing. Refer to [⇒ Fig. "Install the 5th Gear Needle Bearing Sleeve -A-", page 156](#)

7 - Transmission Housing

8 - Bearing Mount with Grooved Ball Bearing

- ☐ Only replace grooved ball bearing together with bearing mount
- ☐ if bearing mount is removed from transmission housing, it must always be replaced
- ☐ Removing. Refer to [⇒ Fig. "Remove the Bearing Mount and Grooved Ball Bearing", page 152](#)
- ☐ Installing. Refer to [⇒ page 155](#)

9 - Input Shaft

10 - Needle Bearing

- ☐ For 3rd gear



11 - 3rd Gear Wheel

12 - 3rd Gear Synchronizer Ring

- ☐ Checking for wear. Refer to ➤ [Fig. "Checking Synchronizer Ring for Wear"](#) , page 154

13 - Locking Sleeve with Synchronizer Hub for 3rd and 4th Gears

- ☐ Removing with the 3rd gear wheel. Refer to
➤ [Fig. "Removing the Bearing Inner Race for the Cylindrical Roller Bearing"](#) , page 153
- ☐ Disassembling. Refer to
➤ [Fig. "Disassembling and Assembling Locking collar and Synchronizer Hub for 3rd/4th Gears"](#) , page 153 .
- ☐ Installed position: locking collar/synchronizer hub. Refer to
➤ [Fig. "Installed Position: Locking Collar/Synchronizer Hub for 3rd and 4th Gears"](#) , page 153
- ☐ Assembling. Refer to
➤ [Fig. "Assembling Locking Collar/Synchronizer Hub for 3rd and 4th Gears."](#) , page 153
- ☐ Installing. Refer to
➤ [Fig. "Installing the Synchronizer Hub with Locking Collar for 3rd and 4th Gears"](#) , page 154

14 - 4th Gear Synchronizer Ring

- ☐ Checking for wear. Refer to ➤ [Fig. "Checking Synchronizer Ring for Wear"](#) , page 154

15 - 4th Gear Wheel

16 - Sleeve

- ☐ For the 4th gear needle bearing
- ☐ replace together with -item 17- ➤ [Item 17 \(page 151\)](#)
- ☐ Removing with the 3rd gear wheel. Refer to
➤ [Fig. "Removing the Bearing Inner Race for the Cylindrical Roller Bearing"](#) , page 153
- ☐ Installing. Refer to ➤ [Fig. "Install the 4th Gear Needle Bearing Sleeve -A-."](#) , page 154

17 - Needle Bearing

- ☐ For 4th gear
- ☐ replace together with -item 16- ➤ [Item 16 \(page 151\)](#)

18 - Thrust Washer

19 - Bearing inner race for the cylindrical roller bearing

- ☐ Removing. Refer to
➤ [Fig. "Removing the Bearing Inner Race for the Cylindrical Roller Bearing"](#) , page 153
- ☐ Installing. Refer to
➤ [Fig. "Installing the Bearing Inner Race -A- for the Cylindrical Roller Bearing"](#) , page 154

20 - Circlip

- ☐ Replacing
- ☐ Selecting thickness. Refer to ➤ [Fig. "Selecting the Locking Ring"](#) , page 155 .

21 - Cylindrical Roller Bearing

- ☐ With circlip
- ☐ Removing. Refer to ➤ [Fig. "Remove the Roller Bearing from the Clutch Housing"](#) , page 152
- ☐ Installing. Refer to ➤ [Fig. "Pressing Cylindrical Roller Bearing into Clutch Housing."](#) , page 152
- ☐ Installed position: the circlip in bearing points to input shaft

22 - Clutch Housing

23 - Spring

- ☐ Installation position. Refer to
➤ [Fig. "Assembling Locking Collar/Synchronizer Hub for 3rd and 4th Gears."](#) , page 153 .

24 - Locking Collar for 3rd and 4th gear

25 - Synchronizer Hub for 3rd and 4th Gear

26 - Locking Pieces

- ☐ Quantity: 3



27 - Spring

- ❑ Installation position. Refer to
⇒ [Fig. "5th Gear Locking Collar/Synchronizer Hub Assembly", page 157](#) .

28 - Locking Pieces

- ❑ Quantity: 3

29 - 5th Gear Synchronizer Hub

30 - 5th Gear Locking Collar

31 - Stop ring

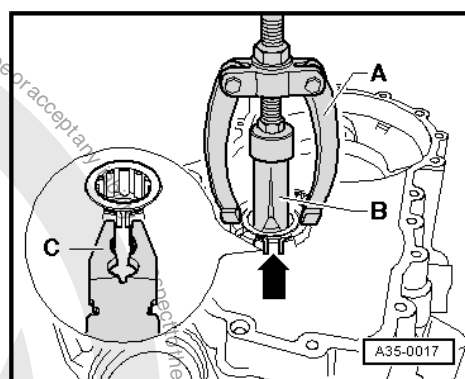
- ❑ Prevents locking pieces from moving off
- ❑ Removing. Refer to ⇒ [Fig. "Stop Ring, Removing", page 156](#)
- ❑ Installing. Refer to ⇒ [Fig. "Stop Ring, Installing", page 157](#) .

Remove the Roller Bearing from the Clutch Housing

- Compress the cylindrical roller bearing locking ring -arrow- with pliers -C- and remove it.

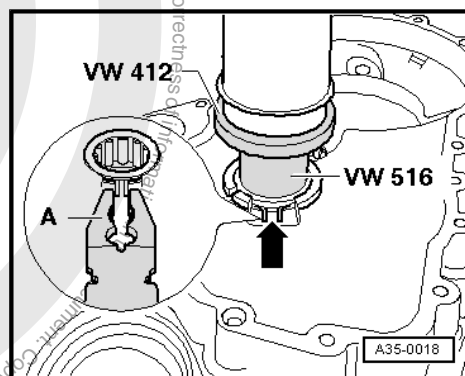
A - for example Puller - Kukko Counterstay - 22/1-

B - for example Puller - Kukko Internal - 28-37mm - 21/5-



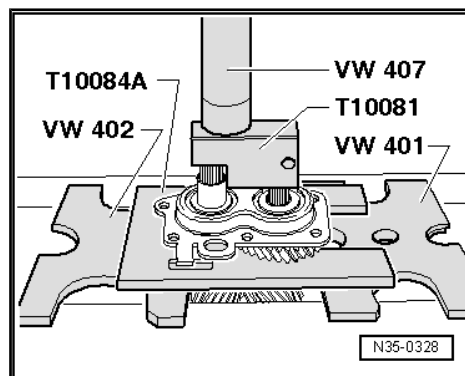
Pressing Cylindrical Roller Bearing into Clutch Housing.

- Support the clutch housing with the Press Piece - 60mm - VW415A- (not illustrated) directly below bearing mount.
- Compress the cylindrical roller bearing locking ring -arrow- with pliers -A- and install it.
- Remove the pliers before the cylindrical roller bearing gets into its installed position. The locking ring must lock into the groove on the clutch housing.



Remove the Bearing Mount and Grooved Ball Bearing

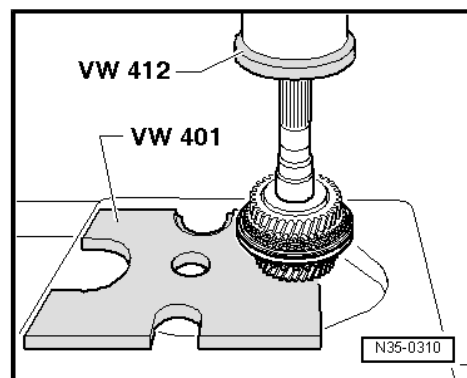
- Slide the locking collar for 1st and 2nd gear to 2nd gear.
- Slide the Bearing Installer - Bearing Press Plate - T10084A- sideways all the way into input shaft.
- Insert the centering pins in Press Piece - T10081- into holes in input and output shaft.





Removing the Bearing Inner Race for the Cylindrical Roller Bearing

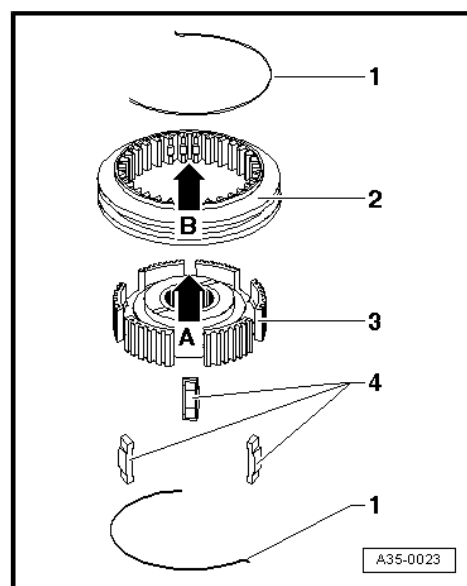
- Remove the circlip using the Circlip Pliers - VW161A- .
- Remove the cylindrical roller bearing bearing inner race together with the: thrust washer, 4th gear wheel with needle bearing, 3rd and 4th gear locking collar/synchronizer hub and 3rd gear wheel.



Disassembling and Assembling Locking collar and Synchronizer Hub for 3rd/4th Gears

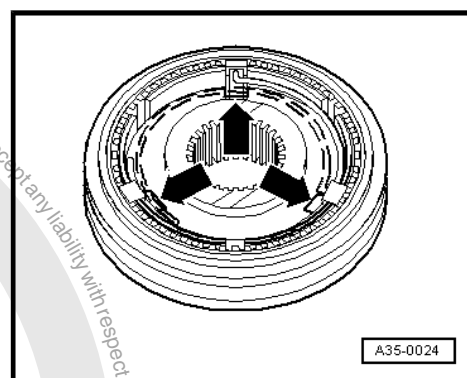
- 1 - Spring
 - 2 - Locking collar
 - 3 - Synchronizer Hub
 - 4 - Locking piece
- Slide the locking collar over the synchronizer hub.

The deeper recesses -arrow A- for the locking pieces inside the synchronizer hub and the recesses -arrow B- inside the locking collar must align.



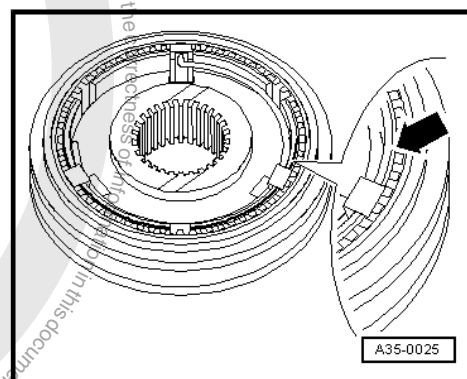
Assembling Locking Collar/Synchronizer Hub for 3rd and 4th Gears.

- The locking collar is pushed over the synchronizer hub.
- Insert locking pieces in deep recesses -arrows- and install springs offset by 120°. The angled end of the spring must engage into the hollow locking piece.



Installed Position: Locking Collar/Synchronizer Hub for 3rd and 4th Gears

The groove on the front side -arrow- points to the 4th gear.

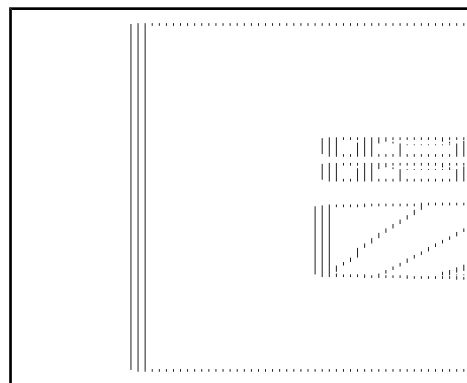




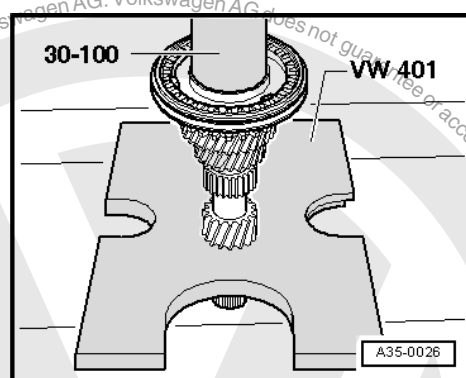
Checking Synchronizer Ring for Wear

- Press synchronizer ring onto taper of the gear wheel and measure gap dimension -a- using a feeler gauge.

Gap dimension -a-	Installation Dimension	Wear limit
3rd 4th and 5th Gear	1.1 to 1.7 mm	0.5 mm

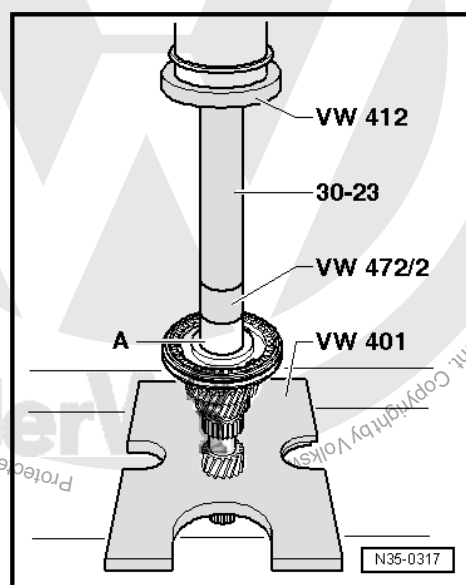


Installing the Synchronizer Hub with Locking Collar for 3rd and 4th Gears

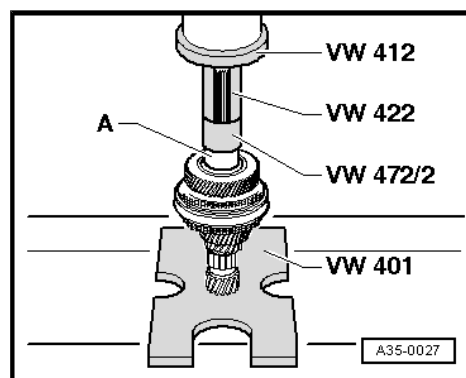


Install the 4th Gear Needle Bearing Sleeve -A-

- Install the 4th gear needle bearing, the 4th gear wheel synchronizer ring and the thrust washer after installing the sleeve -A-



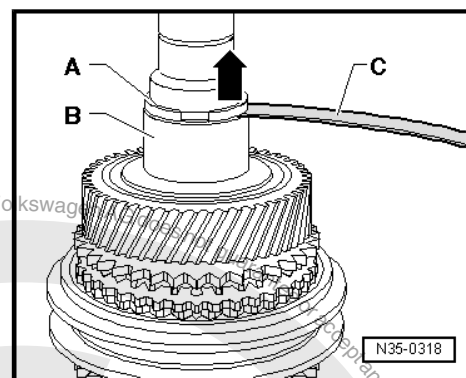
Installing the Bearing Inner Race -A- for the Cylindrical Roller Bearing





Selecting the Locking Ring

- Insert a 2.0 mm thick circlip -A- into groove of input shaft and press upward -arrow-.
- Measure between the bearing inner race -B- and the installed locking ring -A- with a feeler gauge -C-.
- Remove the locking ring used for the measurement.
- Select the locking ring according to the Table.



Note

Allocate the correct locking rings. Refer to the Parts Catalog.

Available Locking Rings

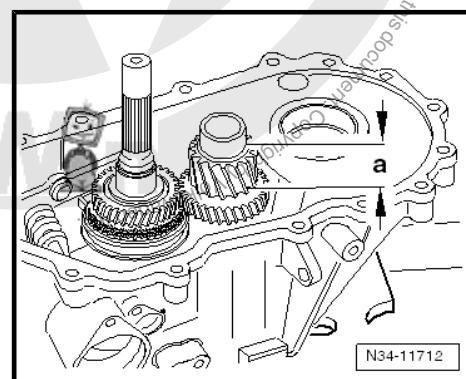
Measured value (mm)	Circlip thickness (mm)	Axial play (mm)
0.05 to 0.14	2.0	0.05 to 0.15
0.15 to 0.24	2.1	0.05 to 0.15
0.25 to 0.34	2.2	0.05 to 0.15
0.35 to 0.44	2.3	0.05 to 0.15
0.45 to 0.51	2.4	0.05 to 0.10

Install the bearing mount with grooved ball bearing onto the input and output shafts.



Note

- ◆ Due to the varying spline height, the output shafts of individual transmissions have different -a- lengths (illustrated here with front shaft installed).
- ◆ So that the bearing mount is always pressed in the same on the shafts, the shafts must always be inserted evenly in the Press Piece - Block - T10083-.
- ◆ if necessary a Press Piece - Block - Washer - T10083/1- (3 mm thick) must be placed in the Input shaft locating bore. Refer to
⇒ Fig. "Insert the Press Piece - Block - Washer - T10083/1- ", page 156 .
- ◆ For this reason the splines on the output shaft dimension -a- must be measured.

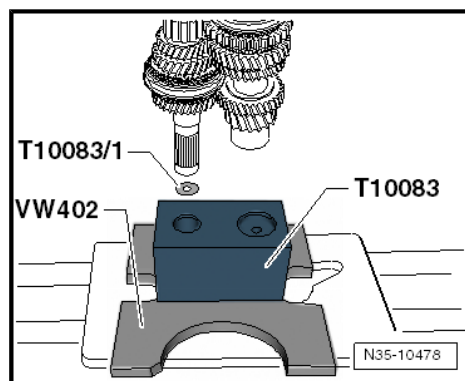


Dimension -a- = 30.6 mm

Insert the Press Piece - Block - Washer - T10083/1- ⇒ next illustration



Insert the Press Piece - Block - Washer - T10083/1-



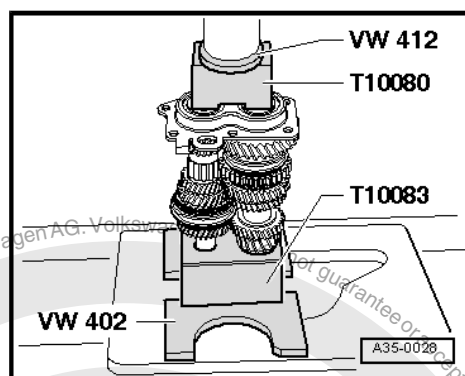
Press in the Bearing Mount

- Warm to approximately 100 °C before installing.

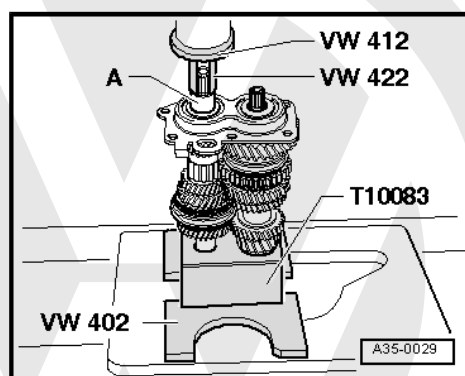


WARNING

Wear safety gloves.

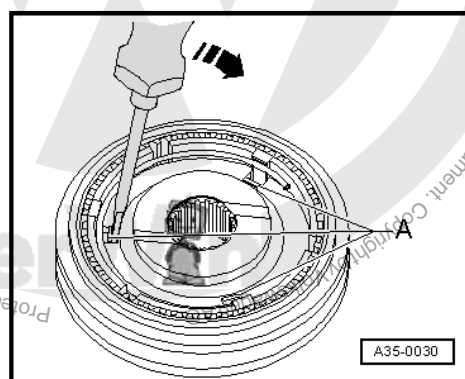


Install the 5th Gear Needle Bearing Sleeve -A-



Stop Ring, Removing

- Unclip stop ring hook -A- from synchronizer hub with screwdriver.

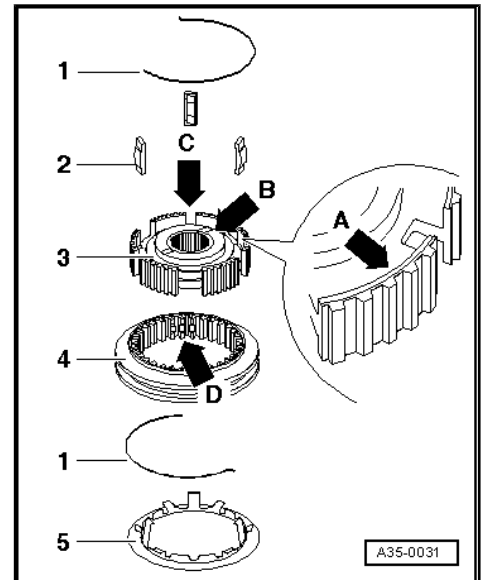




Locking Collar and 5th Gear Synchronizer Hub, Disassembling and Assembling

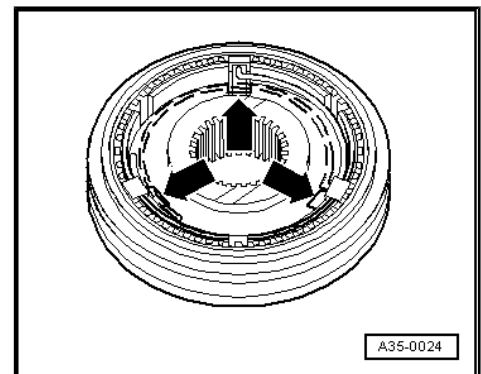
- 1 - Spring
 - 2 - Locking piece
 - 3 - Synchronizer hub - installation location: Groove on rear side -arrow A- and wide collar -arrow B- face toward 5th gear.
 - 4 - Locking collar
 - 5 - Stop ring
- Slide the locking collar over the synchronizer hub.

The deeper recesses -arrow C- for the locking pieces inside the synchronizer hub and the recesses -arrow D- inside the locking collar must align.



5th Gear Locking Collar/Synchronizer Hub Assembly

- The locking collar is pushed over the synchronizer hub.
- Insert the locking pieces in the deep recesses -arrows- and install springs offset by 120°. The angled end of the spring must engage into the hollow locking piece.

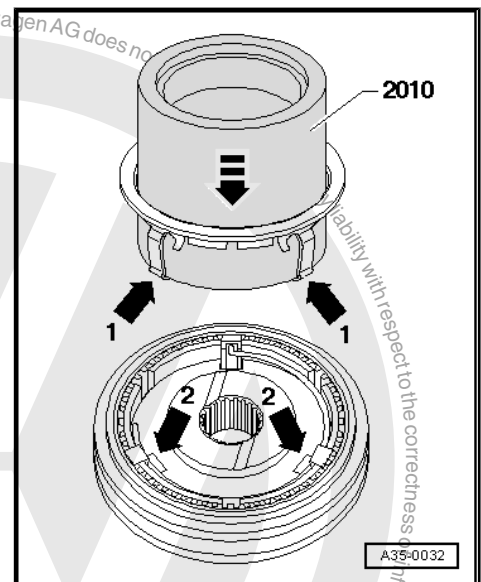


Stop Ring, Installing

- Press the stop ring onto the Press Piece - Trailing arm - 2010- .
- Insert stop ring together with Press Piece - Trailing arm - 2010- into 5th gear synchronizer hub/locking collar (note installation location. Refer to [Fig. "Locking Collar and 5th Gear Synchronizer Hub, Disassembling and Assembling" page 157](#)).

The hooks -arrow 1- engage in recesses -arrow 2- for synchronizer hub locking pieces.

- Press stop ring down until the hooks engage.





2 Output Shaft

⇒ **"2.1 Output Shaft, Disassembling and Assembling",**
page 158

2.1 Output Shaft, Disassembling and Assembling

Special tools and workshop equipment required

- ◆ Press Plate - VW402-
- ◆ Press Piece - Rod - VW407-
- ◆ Press Piece - Multiple Use - VW412-
- ◆ Press Piece - 60mm - VW415A-
- ◆ Press Piece - Bushing - 50mm Diameter - VW432-
- ◆ Press Piece - Press Tube - 30-100-
- ◆ Puller - Kukko Internal - 28-37mm - 21/5-
- ◆ Puller - Kukko Counterstay - 22/1-
- ◆ Inductive Heater - VAS6414-



Note

- ◆ *When installing new gear wheels or a new input shaft. Refer to the technical data. Refer to ⇒ **"1.2 Codes, Transmission Allocation and Capacities", page 2** and the Parts Catalog.*
- ◆ *Insert all bearings, selector gears and synchronizer rings on output shaft with transmission fluid.*
- ◆ *Do not exchange synchronizer rings, always allocate to original selector gear when reusing.*
- ◆ *Wearing safety gloves, warm the gear wheels and the synchronizer hubs to approximately 100 °C (212 °F) using an Inductive Heater - VAS6414- before installing them.*



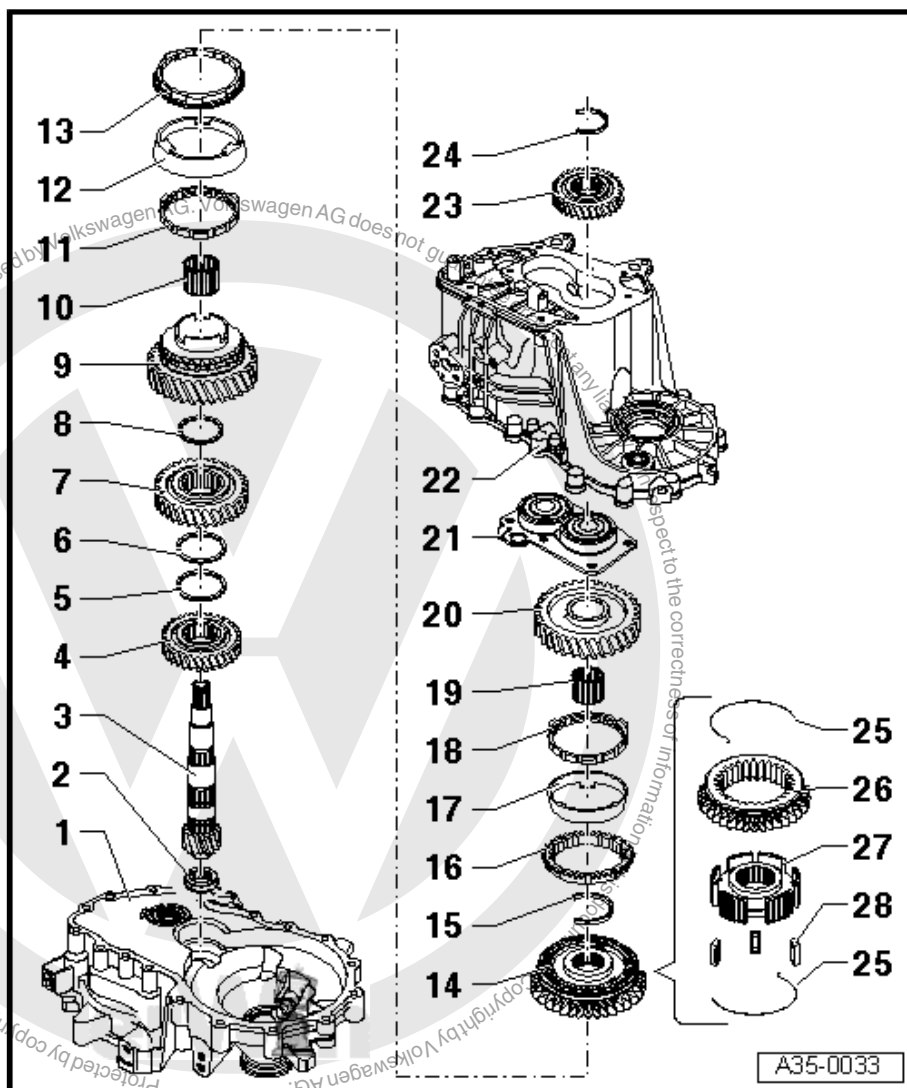
1 - Clutch Housing

2 - Cylindrical Roller Bearing

- ☐ With circlip
- ☐ Removing. Refer to
⇒ [Fig. "Remove the Roller Bearing from the Clutch Housing"](#),
page 161
- ☐ Installing. Refer to
⇒ [Fig. "Pressing Cylindrical Roller Bearing into Clutch Housing"](#),
page 161
- ☐ Installed position: the circlip in bearing points to output shaft

3 - Output Shaft

- ☐ If an bearing inner race is available as a bearing seat for the roller bearing -item 2-
⇒ [Item 2 \(page 159\)](#), this cannot be removed from the output shaft
- ☐ Check bearing seat or cylindrical roller bearing inner race for grooves and damage
- ☐ If there are grooves or damage on the bearing inner race on the cylindrical roller bearing, then replace both the output shaft and cylindrical roller bearing.



4 - 4th Gear Wheel

- ☐ Installed position: shoulder faces 3rd gear. Refer to
⇒ [Fig. "Installation Location of 3rd and 4th Gear Drive Gears"](#), page 162

5 - Circlip

- ☐ Always replace damaged or stretched circlips.

6 - Circlip

- ☐ Always replace damaged or stretched circlips.

7 - 3rd Gear Wheel

- ☐ Installed position: shoulder faces 4th gear. Refer to
⇒ [Fig. "Installation Location of 3rd and 4th Gear Drive Gears"](#), page 162

8 - Circlip

- ☐ Always replace damaged or stretched circlips.

9 - 2nd Gear Wheel

10 - Needle Bearing

- ☐ For 2nd gear

11 - 2nd Gear Inner Race

- ☐ Checking for wear. Refer to
⇒ [Fig. "Checking inner race for 1st gear and 2nd gear for wear"](#), page 162
- ☐ Installation position. Refer to
⇒ [Fig. "Installed position: 2nd gear outer race, inner race and synchronizer ring"](#), page 163 .



12 - 2nd Gear Outer Race

- ☐ Lay on inner race -item 11- [⇒ Item 11 \(page 159\)](#)
- ☐ Replace if there are grooves or scoring
- ☐ Installation position. Refer to [⇒ Fig. ""Installed position: 2nd gear outer race, inner race and synchronizer ring"" , page 163 .](#)

13 - 2nd Gear Synchronizer Ring

- ☐ Checking for wear. Refer to [⇒ Fig. ""Checking 1st gear and 2nd gear synchronizing ring for wear"" , page 162](#)
- ☐ Installation position. Refer to [⇒ Fig. ""Installed position: 2nd gear outer race, inner race and synchronizer ring"" , page 163 .](#)

14 - Locking Collar with Synchronizer Hub for 1st and 2nd Gears

- ☐ After removing the circlip. Refer to -item 15- [⇒ Item 15 \(page 160\)](#) , remove with the 2nd gear wheel. Refer to [⇒ Fig. ""Locking Collar/Synchronizer Hub for 1st and 2nd Gear"" , page 162 .](#)
- ☐ Disassembling. Refer to [⇒ Fig. ""Disassembling and assembling locking collar and synchronizer hub for 1st and 2nd gears"" , page 163 .](#)
- ☐ Assembling the locking collar/synchronizer hub. Refer to [⇒ Fig. ""Disassembling and assembling locking collar and synchronizer hub for 1st and 2nd gears"" , page 163](#) and [⇒ Fig. ""Assembling locking collar/synchronizer hub for 1st and 2nd gears."" , page 163](#)
- ☐ Installation position. Refer to [⇒ Fig. ""Disassembling and assembling locking collar and synchronizer hub for 1st and 2nd gears"" , page 163 .](#)
- ☐ Installing. Refer to [⇒ Fig. ""Installing the locking collar/synchronizer hub for 1st and 2nd gears."" , page 164](#)

15 - Circlip

- ☐ Press out. Refer to [⇒ Fig. ""Removing the locking ring -1- "" , page 161](#)
- ☐ Inserting. Refer to [⇒ Fig. ""Circlip, Installing"" , page 164](#)

16 - 1st Gear Synchronizer Ring

- ☐ Checking for wear. Refer to [⇒ Fig. ""Checking 1st gear and 2nd gear synchronizing ring for wear"" , page 162](#)
- ☐ Insert it so that the holes engage into engagement pieces of locking collar. Refer to -item 14- [⇒ Item 14 \(page 160\)](#) .

17 - 1st Gear Outer Race

- ☐ Install in synchronizer ring. -item 16- [⇒ Item 16 \(page 160\)](#)
- ☐ Installation position. Refer to [⇒ Fig. ""Installation position of 1st gear outer race"" , page 164 .](#)
- ☐ Replace if there are grooves or scoring

18 - 1st Gear Inner Race

- ☐ Checking for wear. Refer to [⇒ Fig. ""Checking inner race for 1st gear and 2nd gear for wear"" , page 162](#)
- ☐ Check for scoring
- ☐ Installation position. Refer to [⇒ Fig. ""1st gear inner race -A- installed position"" , page 164 .](#)

19 - Needle Bearing

- ☐ For 1st gear

20 - 1st Gear Wheel

- ☐ Installation position. Refer to [⇒ Fig. ""Installation location of 1st gear selector gear"" , page 165 .](#)

21 - Bearing Mount with Grooved Ball Bearing

- ☐ Only replace grooved ball bearing together with bearing mount
- ☐ if bearing mount is removed from transmission housing, it must always be replaced
- ☐ Removing. Refer to [⇒ Fig. ""Remove the Bearing Mount and Grooved Ball Bearing"" , page 152](#)
- ☐ Installing. Refer to [⇒ page 155](#)



22 - Transmission Housing

23 - 5th Gear Wheel

- ☐ Installed position: the collar faces the transmission housing cover ➔ [page 125](#)

24 - Circlip

- ☐ Replace after removing
- ☐ Selecting thickness. Refer to ➔ [page 125](#) .

25 - Spring

- ☐ Installation position. Refer to
➔ [Fig. "Assembling locking collar/synchronizer hub for 1st and 2nd gears."](#) , [page 163](#) .

26 - Locking Collar

27 - Synchronizer Hub

28 - Locking Pieces

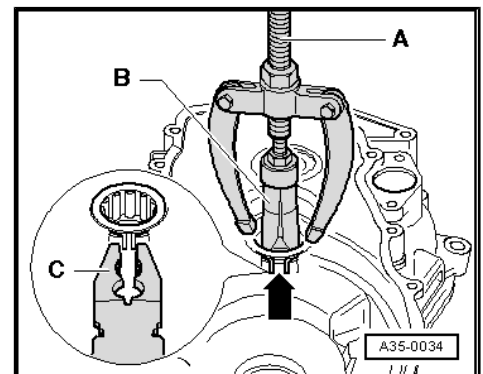
- ☐ Quantity: 3

Remove the Roller Bearing from the Clutch Housing

- Compress the cylindrical roller bearing locking ring -arrow- with pliers -C- and remove it.

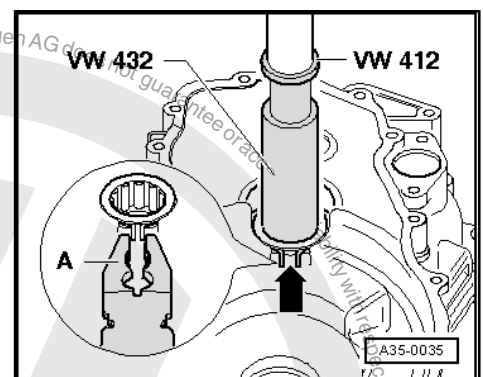
A - for example Puller - Kukko Counterstay - 22/1-

B - for example Puller - Kukko Internal - 28-37mm - 21/5-



Pressing Cylindrical Roller Bearing into Clutch Housing.

- Support the clutch housing with the Press Piece - 60mm - VW415A- (not illustrated) directly below bearing mount.
- Compress the cylindrical roller bearing locking ring -arrow- with pliers -A- and install it.
- Remove the pliers before the cylindrical roller bearing gets into its installed position. The locking ring must lock into the groove on the clutch housing.



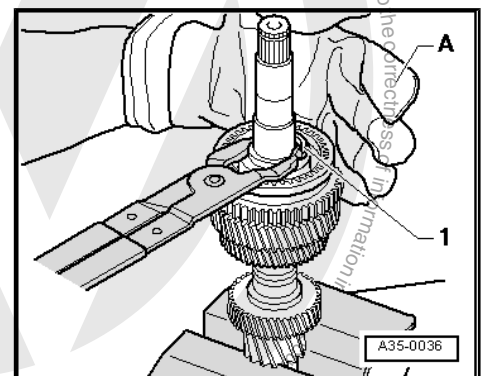
Removing the locking ring -1-

A - Protective gloves



WARNING

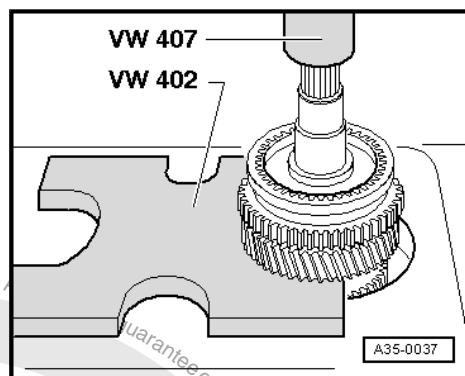
Prevent circlip from jumping away uncontrolled.





Locking Collar/Synchronizer Hub for 1st and 2nd Gear

- After removing the circlip, remove the selector gear for 2nd gear and the locking collar/synchronizer hub.



Installation Location of 3rd and 4th Gear Drive Gears

- Install the 4th gear wheel -A- onto the output shaft.

Installation position:

The collar -arrow 1- faces the 3rd gear wheel -B-.

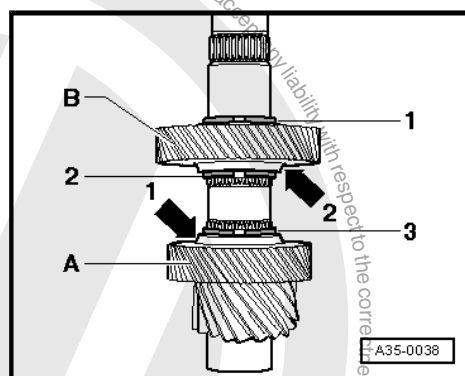
- Install the locking rings -2 and 3-.

- Install the 3rd gear wheel -B- on the output shaft.

Installation position:

The collar -arrow 2- faces the 4th gear wheel -A-.

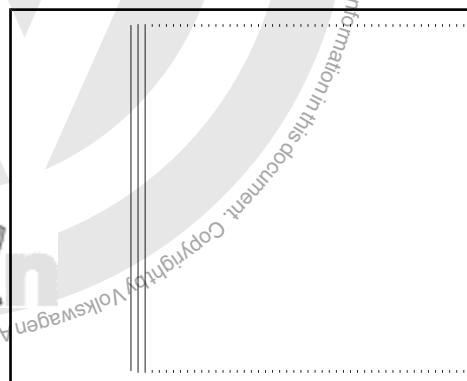
- Install the locking ring -1-.



Checking inner race for 1st gear and 2nd gear for wear

- Install the inner race onto taper of selector gear and then measure gap dimension -a- with a feeler gauge.

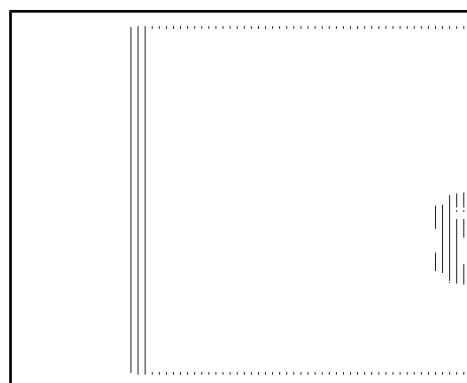
Gap dimension -a-	Installation Dimension	Wear limit
1st and 2nd gear	0.75 to 1.25 mm	0.3 mm



Checking 1st gear and 2nd gear synchronizing ring for wear

- Install the synchronizer ring, outer race and inner race onto taper of selector gear and then measure the gap dimension -a- with a feeler gauge.

Gap dimension -a-	Installation Dimension	Wear limit
1st and 2nd gear	1.2 to 1.8 mm	0.5 mm





Installed position: 2nd gear outer race, inner race and synchronizer ring

- Install the inner race -A- on the 2nd gear wheel.

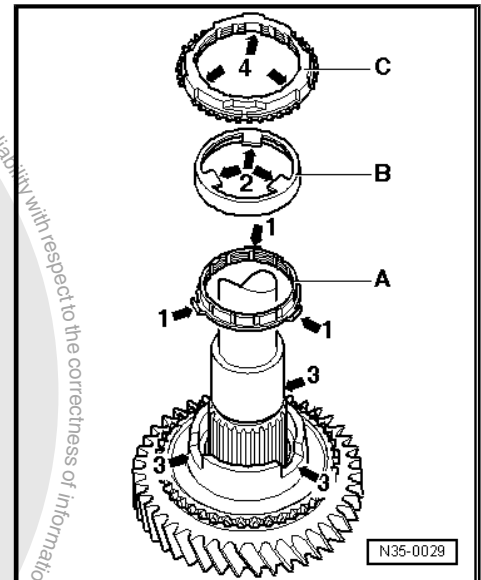
The angled tabs -arrows 1- face the outer race -B-.

- Install the outer race -B-.

The tabs -arrows 2- must lock into the retainers -arrows 3- in the gear wheel.

Install the synchronizer ring -C-.

The retainers -arrows 4- lock in the tabs -arrows 1- on the inner race -A-.



Disassembling and assembling locking collar and synchronizer hub for 1st and 2nd gears

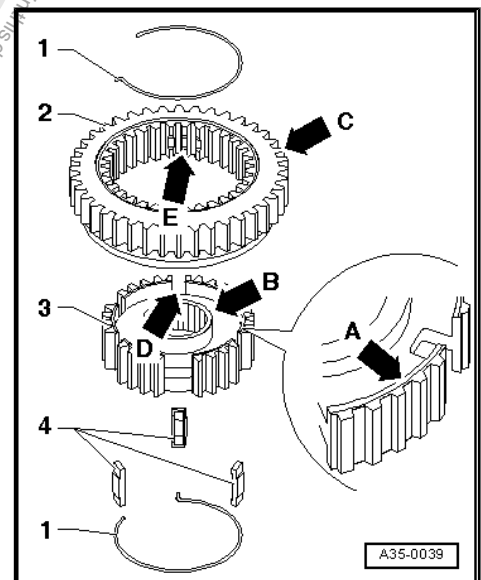
- 1 - Spring
- 2 - Locking collar
- 3 - Synchronizer Hub
- 4 - Locking piece

- Slide the locking collar over the synchronizer hub.

Installation position:

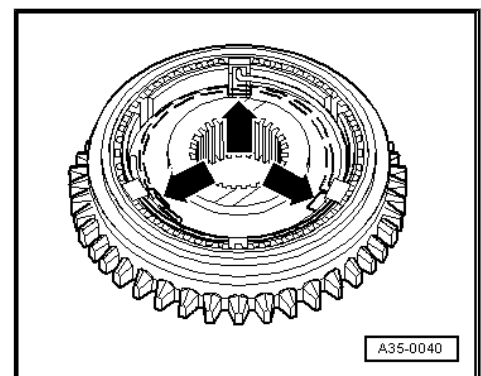
The groove on the front -arrow A- and the higher collar -arrow B- on the synchronizer hub faces the outer splines on the locking collar -arrow C-.

Deeper recesses -arrow D- for locking pieces in synchronizer hub and recesses -arrow E- in locking collar must align.



Assembling locking collar/synchronizer hub for 1st and 2nd gears.

- The locking collar is pushed over the synchronizer hub.
- Insert the locking pieces in the deeper recesses -arrows- and install springs offset by 120°. The angled end of the spring must engage into the hollow locking piece.



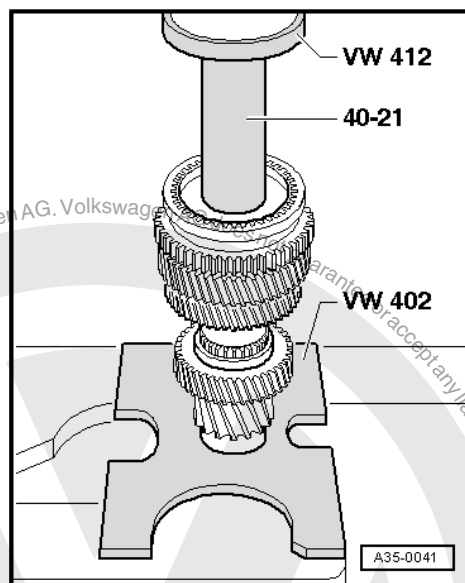


Installing the locking collar/synchronizer hub for 1st and 2nd gears.

Installation position:

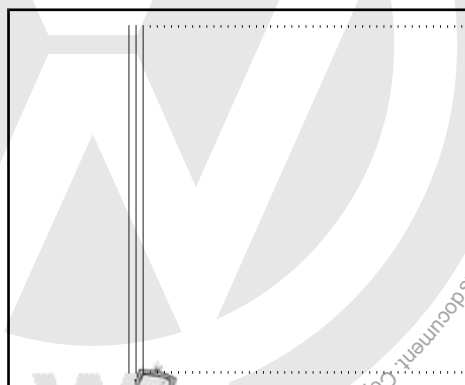
The shift fork groove in the locking collar faces 1st gear and the reverse gear splines face 2nd gear.

- Turn the synchronizer ring so that the grooves line up with the locking pieces.



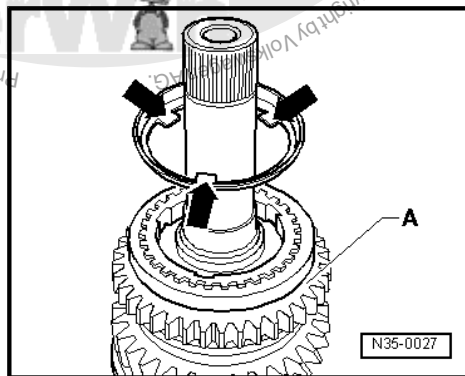
Circlip, Installing

- Place 1st gear synchronizer ring in locking collar/synchronizing hub.



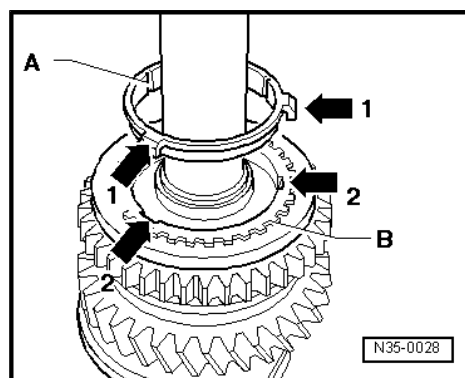
Installation position of 1st gear outer race

Tabs -arrows- face the reverse gear splines



1st gear inner race -A- installed position

The tabs -arrows 1- engage into the holes -arrows 2- inside the synchronizer ring -B-.

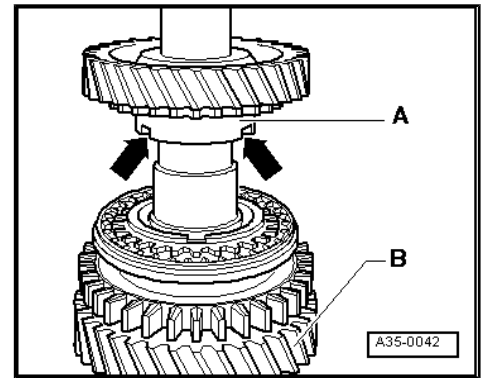




Installation location of 1st gear selector gear

The higher collar -A- faces 2nd gear -B-. The recesses inside the collar -arrows- engage into the tabs on the outer race (-arrow-). Refer to

⇒ Fig. [“Installation position of 1st gear outer race”](#), page 164).

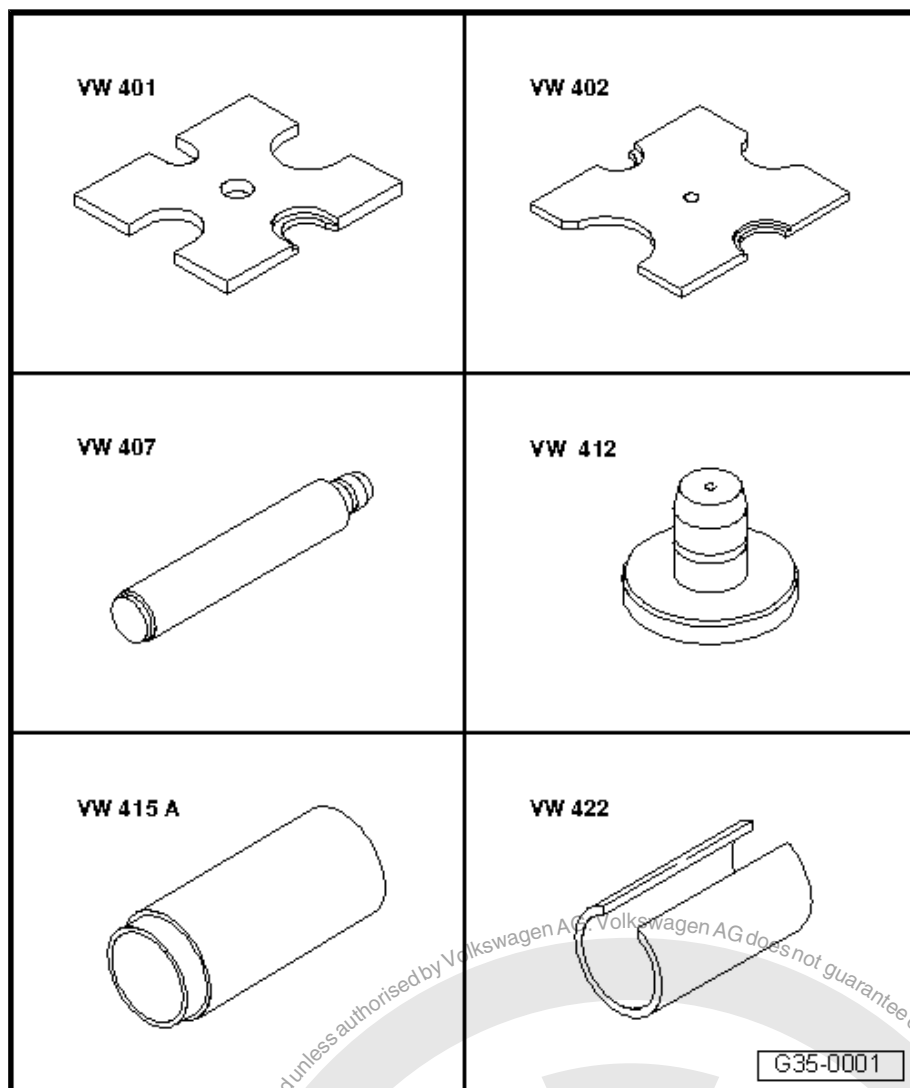




3 Special Tools

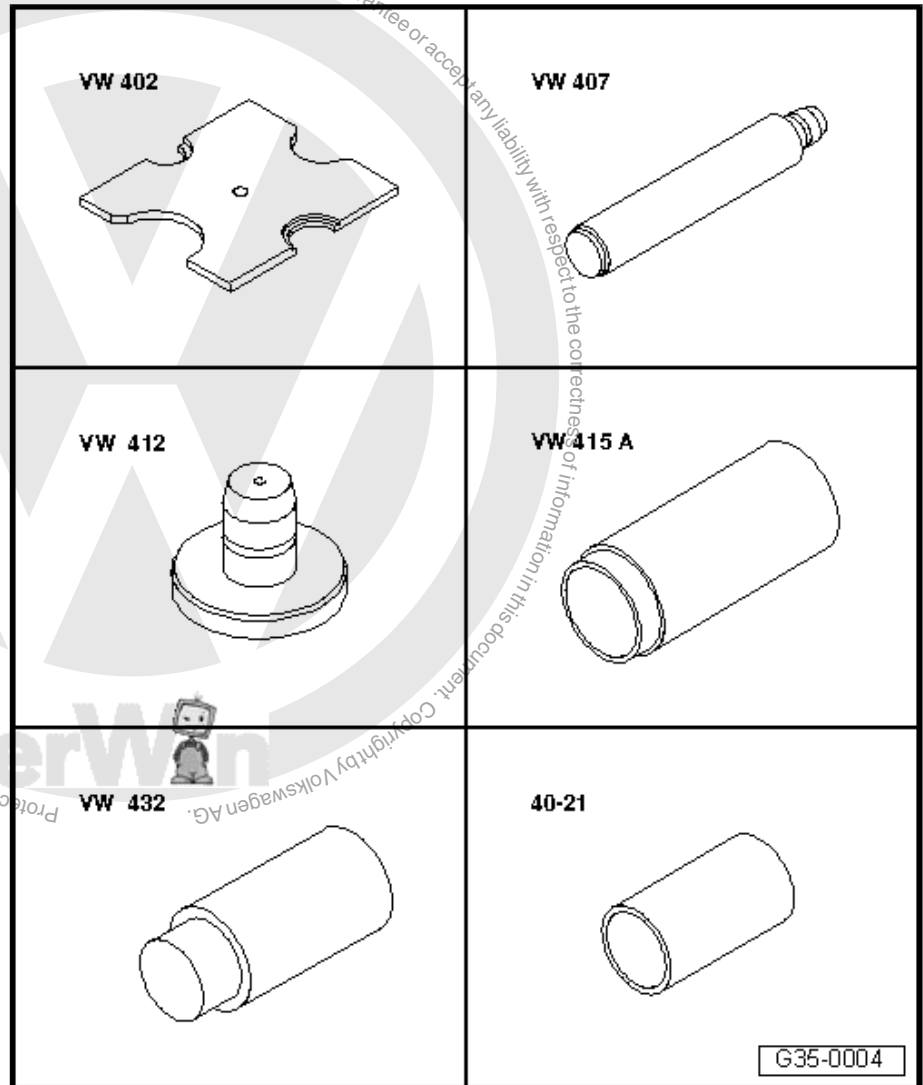
Special tools and workshop equipment required

- ◆ Press Plate - VW401-
- ◆ Press Plate - VW402-
- ◆ Punch - VW407-
- ◆ Punch - VW412-
- ◆ Press Piece - 60mm - VW415A-
- ◆ Press Piece - Open - VW422-



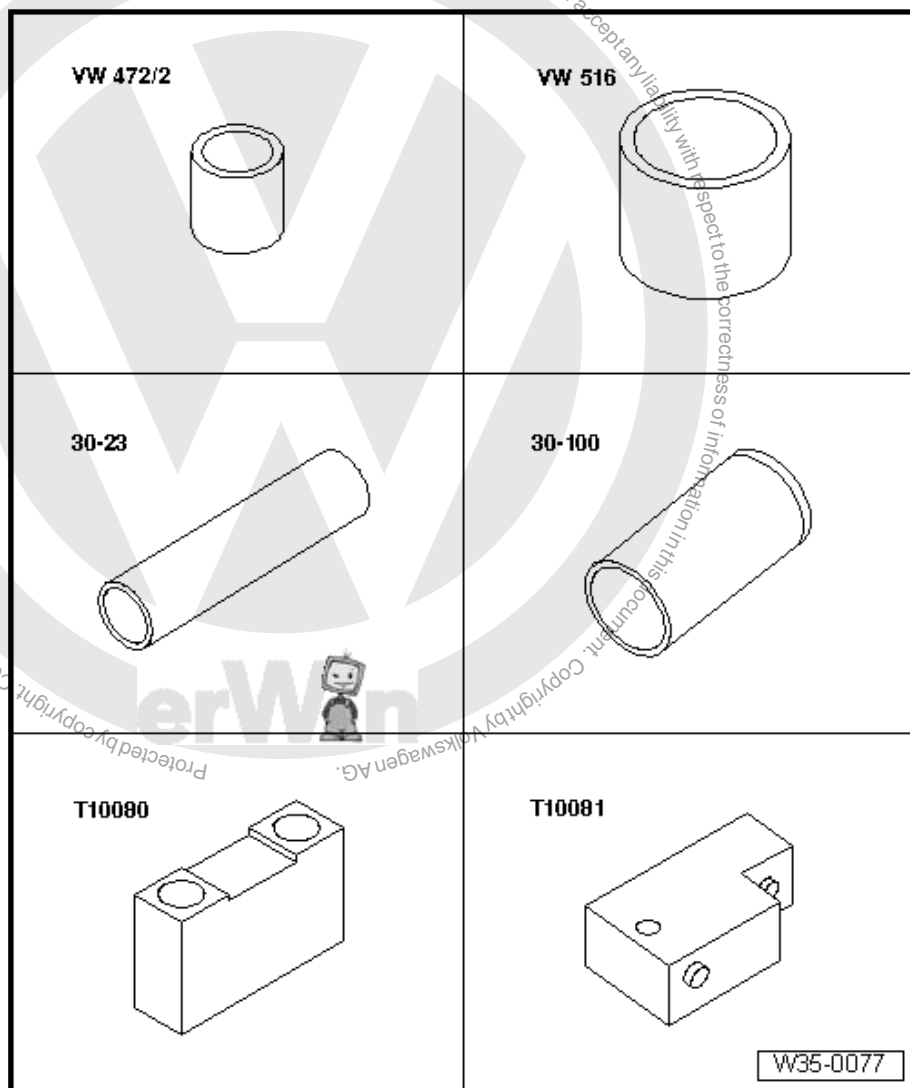


- ◆ Press Plate - VW402-
- ◆ Punch - VW407-
- ◆ Punch - VW412-
- ◆ Press Piece - 60mm - VW415A-
- ◆ Seal Installer - One-Piece Seal - VW432-
- ◆ Press Tube - 30-100-



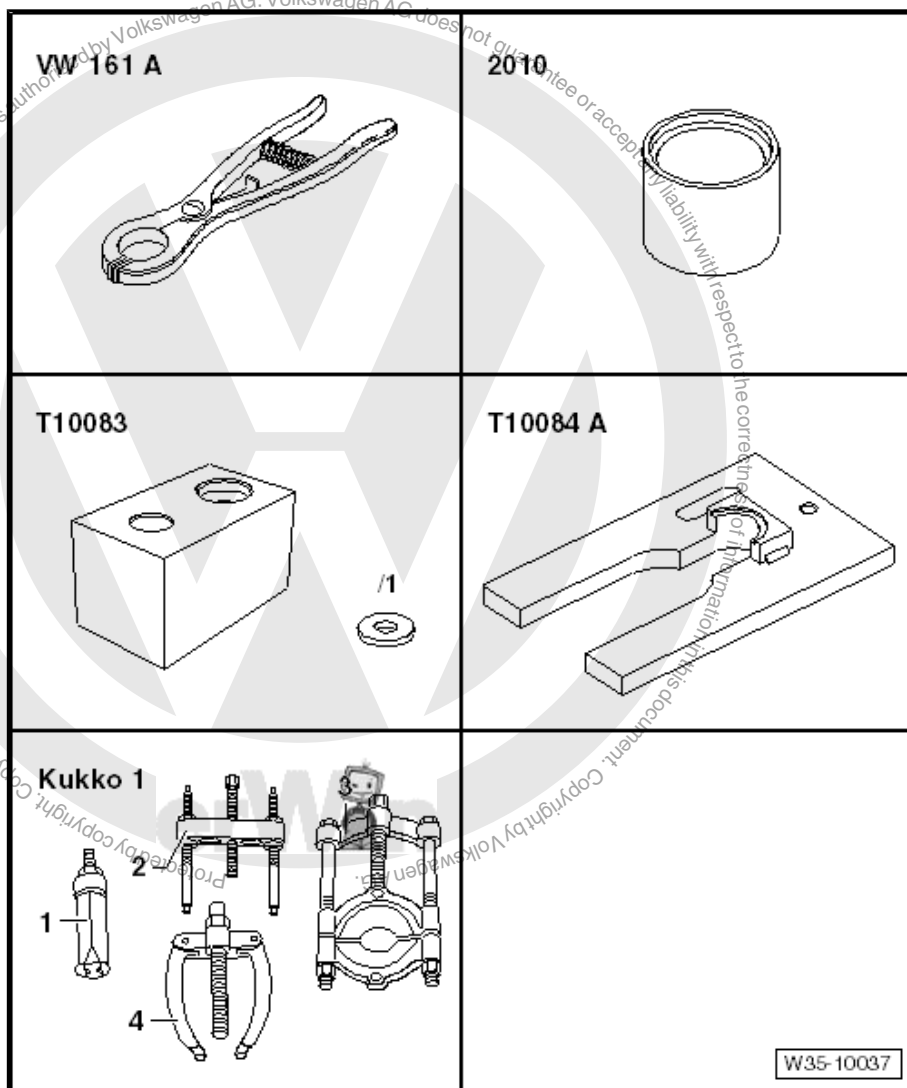


- ◆ Spacing Sleeve - VW472/2-
- ◆ Press Piece - Trailing Arm - VW516-
- ◆ Press Tube - 30-23-
- ◆ Press Tube - 30-100-
- ◆ Press Piece - T10080-
- ◆ Press Piece - T10081-

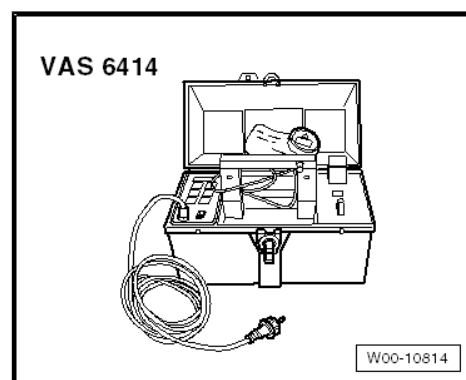




- ◆ Circlip Pliers - VW161A-
- ◆ Press Piece - Trailing Arm - 2010-
- ◆ Thrust Block - T10083-
- ◆ Press Piece - Block - Washer - T10083/1-
- ◆ Bearing Installer - Bearing Press Plate - T10084A-
- ◆ -1- Puller - Kukko Internal - 28-37mm - 21/5-
- ◆ -4- Puller - Kukko Counterstay - 22/1-
- ◆ Feeler Gage



- ◆ Inductive Heater - VAS6414-





39 – Final Drive, Differential

1 Flange Shaft Seals, Manual Transmission Installed, Replacing

⇒ ["1.1 Left Flange Shaft Seal, Replacing", page 170](#)

⇒ ["1.2 Right Flange Shaft Seal, Replacing", page 171](#)

1.1 Left Flange Shaft Seal, Replacing

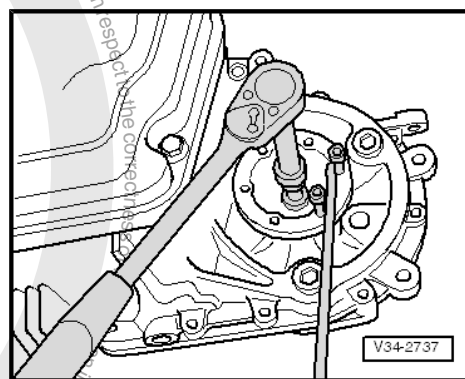
⇒ ["1.1.1 Removing", page 170](#)

⇒ ["1.1.2 Installing", page 171](#)

1.1.1 Removing

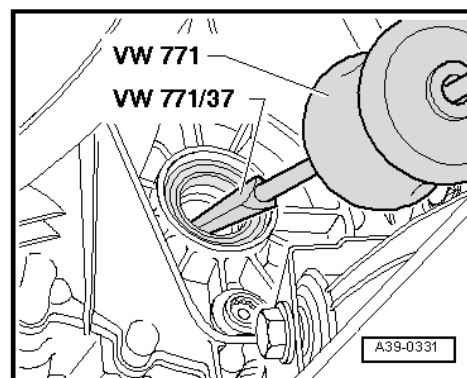
Special tools and workshop equipment required

- ◆ Slide Hammer Set - VW771-
- ◆ Seal Installer - Radial Oil Seal - T10082-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Sealing Grease - G 052 128 A1-
- Remove the left wheel.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Remove the lower section of the left front wheel housing liner or the left front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner .
- Turn the steering wheel to the left.
- Drive axle to flange shaft. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .
- Tie up the driveshaft as high as possible. Do not damage the paint on the driveshaft.
- Place the Drip Tray under the transmission.
- Remove bolts for flange shaft, by installing two bolts into the flange and counter-holding flange shaft using a tire iron.
- Remove the flange shaft with the pressure spring.



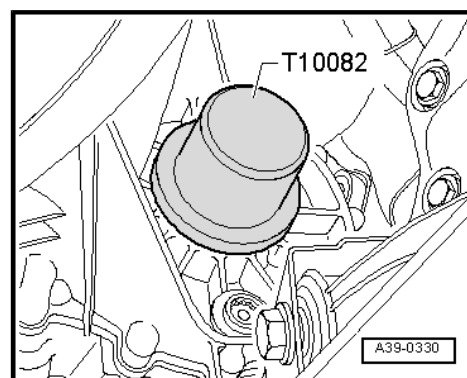


- Remove the flange seal using the Slide Hammer Set - VW771- and the Slide Hammer Set - Hook - VW771/37- .



1.1.2 Installing

- Install the seal all the way in without tilting it.
- Fill the space between the sealing/dust lip halfway with Sealing Grease - G 052 128 A1- .
- Install the flange shaft.
- Fasten flange shaft with countersunk screw and tighten to 25 Nm.
- Attach the drive axles to the transmission. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .
- Check the transmission fluid level. Refer to ⇒ [“5 Transmission Fluid, Checking”, page 111](#) .
- Install the lower section of the left front wheel housing liner or the left front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner .
- Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .
- Install the wheel. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 44 ; Wheel Installation Tightening Specifications .



1.2 Right Flange Shaft Seal, Replacing

⇒ [“1.2.1 Removing”, page 171](#)

⇒ [“1.2.2 Installing”, page 172](#)

1.2.1 Removing

Special tools and workshop equipment required

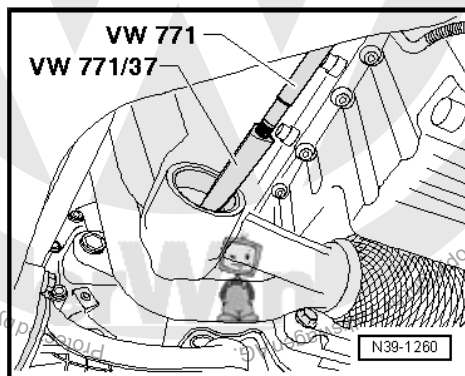
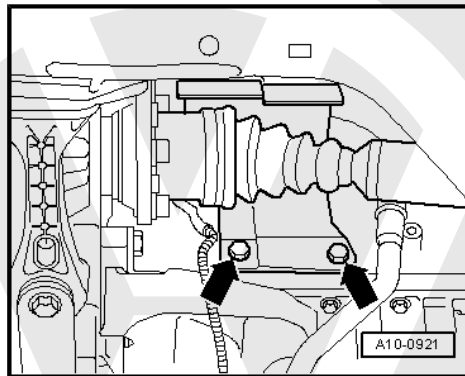
- ◆ Slide Hammer Set - VW771-
- ◆ Seal Installer - Axle Flange - 3158-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Sealing Grease - G 052 128 A1-

Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .

- Turn steering as far as possible toward right.

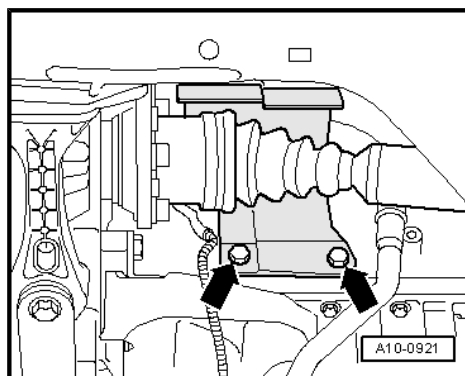
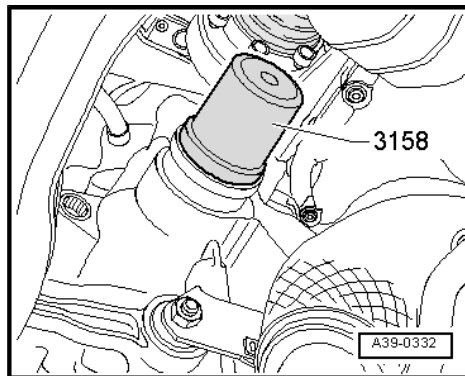


- If equipped, remove the driveshaft heat shield from the engine -arrows-.
- Remove the driveshaft from the flange shaft.
- Tie up the driveshaft as high as possible. Do not damage the paint on the driveshaft.
- Place the Drip Tray under the transmission.
- Remove bolts for flange shaft, by installing two bolts into the flange and counter-holding flange shaft using a tire iron.
- Remove the flange shaft with the pressure spring.
- Remove the flange seal using the Slide Hammer - VW771- and the Slide Hammer Set - Hook - VW771/37- .



1.2.2 Installing

- Install the seal all the way in without tilting it.
- Fill the space between the sealing/dust lip halfway with Sealing Grease - G 052 128 A1- .
- Install the flange shaft.
- Fasten flange shaft with countersunk screw and tighten to 25 Nm.
- Attach the drive axle to the flange shaft. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Removing and Installing .
- If equipped install the drive shaft heat shield -arrows-. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 40 ; Drive Axles, Overview and Servicing; Drive Axle Heat Shield .
- Check the transmission fluid level. Refer to ⇒ ["5 Transmission Fluid, Checking", page 111](#) .
- Install the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Noise Insulation .





2 Differential

⇒ [“2.1 Differential, Disassembling and Assembling”, page 173](#)

⇒ [“2.2 Differential, Adjusting”, page 178](#)

⇒ [“2.3 Differential Shim S2, Selecting”, page 179](#)

2.1 Differential, Disassembling and Assembling

Special tools and workshop equipment required

- ◆ Press Plate - VW401-
- ◆ Press Plate - VW402-
- ◆ Press Piece - Rod - VW408A-
- ◆ Press Piece - Multiple Use - VW412-
- ◆ Press Piece - 31.5mm - VW418A-
- ◆ Press Piece - Multiple Use - VW454-
- ◆ Press Piece - Multiple Use - VW455-
- ◆ Press Piece - Multiple Use Spacer Sleeve - VW472/2-
- ◆ Press Piece - Multiple Use - VW510-
- ◆ Press Piece - Multiple Use - 30-14-
- ◆ Press Piece - Front Control Arm - 2040-
- ◆ Press Piece - Output Shaft Gear/Final Drive Gear - 3002-
- ◆ Flywheel Retainer - 3067-
- ◆ Press Piece - Bushing - 3259-
- ◆ Bearing Installer - Wheel Bearing - 3345-
- ◆ Puller - Taper Roller Bearing - VAG1582-
- ◆ Puller - Taper Roller Bearing - Adapter 4 - VAG1582/4-
- ◆ Puller - Kukko Internal - 46-56mm - 21/7-
- ◆ Puller - Kukko Counterstay - 22/2-
- ◆ Press Piece - Multiple Use - 30-205-
- ◆ Bearing Installer - Differential Bearing - 40-21-
- ◆ Torque Wrench 5-50Nm - VAG1331-
- ◆ Puller - Taper Roller Bearing - Adapter 3 - VAG1582/3-
- ◆ Inductive Heater - VAS6414-



Note

- ◆ *To install, heat the bearing inner races tapered roller bearing to approximately 100 °C (212 °F) with Inductive Heater - VAS6414-. Wear protective gloves.*
- ◆ *Replace both tapered roller bearings together.*
- ◆ *Adjust the differential when replacing the tapered roller bearing, differential housing, transmission housing or clutch housing. Refer to ⇒ [“2.2 Differential, Adjusting”, page 178](#).*



1 - Bolt

- ☐ 25 Nm
- ☐ Install with the threaded piece -item 8-
⇒ [Item 8 \(page 174\)](#)

2 - Right Flange Shaft

3 - Flange Shaft Pressure Spring

- ☐ Installed behind the flange shafts

4 - Thrust Washer

- ☐ Installed position: shoulder faces the pressure spring

5 - Tapered Ring

- ☐ Installed position: ball toward the differential housing

6 - Circlip

- ☐ Holds the tapered ring, the thrust washer and the pressure spring when the flange shaft is removed

7 - Large Differential Bevel Gear

- ☐ Installing. Refer to
⇒ [Fig. "Installing the Differential Bevel Gears" , page 178](#) .

8 - Threaded Piece

- ☐ Installing. Refer to
⇒ [Fig. "Installing the Differential Bevel Gears" , page 178](#) .

9 - Differential Bevel Gear Axle

- ☐ shear off roll pin -item 18- ⇒ [Item 18 \(page 175\)](#) to remove. Refer to
⇒ [Fig. "Removing the Differential Bevel Gear Axle" , page 178](#)
- ☐ Installing. Refer to ⇒ [Fig. "Installing the Differential Bevel Gears" , page 178](#) .

10 - Small Differential Bevel Gear

- ☐ Installing. Refer to ⇒ [Fig. "Installing the Differential Bevel Gears" , page 178](#) .

11 - Thrust Washer Union

- ☐ Install with transmission fluid

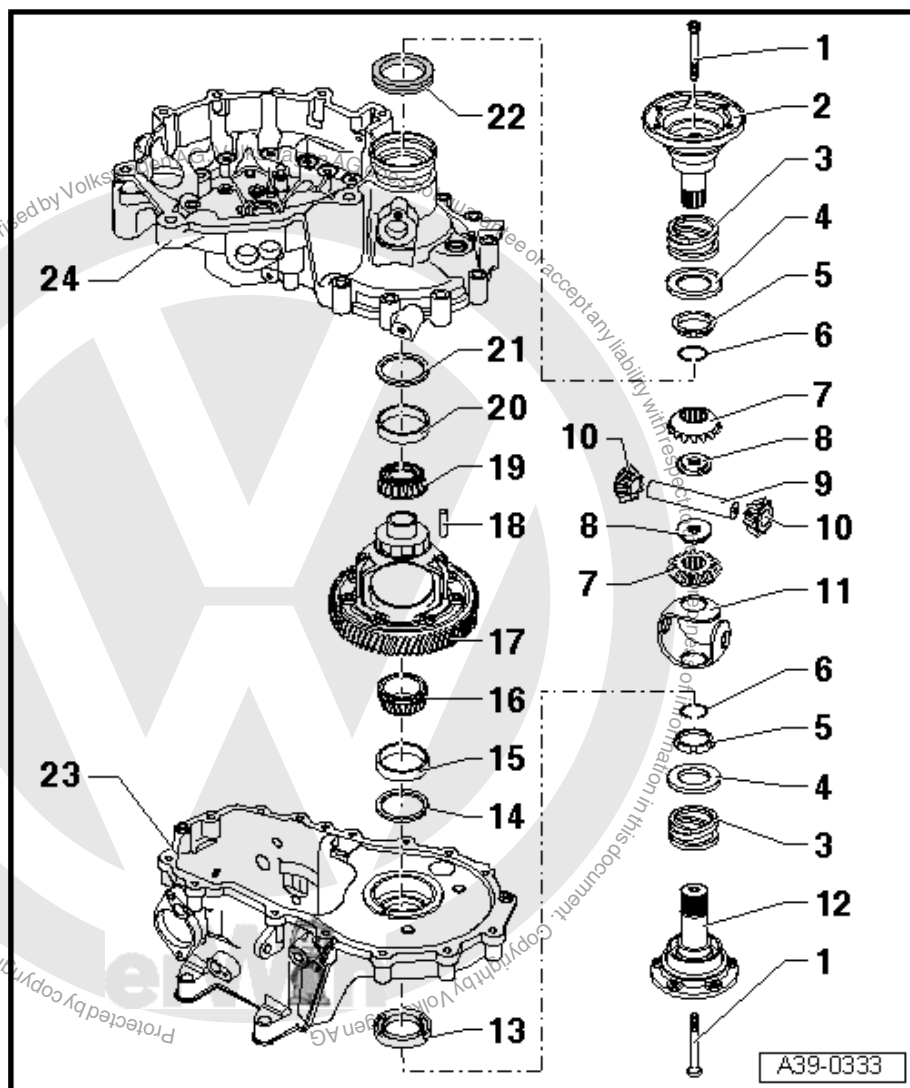
12 - Left Flange Shaft

13 - Seal

- ☐ For the left flange shaft
- ☐ Replace with transmission installed. Refer to ⇒ ["1.1 Left Flange Shaft Seal, Replacing" , page 170](#)

14 - Shim S₁

- ☐ For the differential
- ☐ always 1 mm thick
- ☐ Shim S₁ is deleted as of production date 12/04/2006. Refer to
⇒ [Fig. "Shim S₁ for the outer race/tapered roller bearing is deleted as of production date 04/12/2006." , page 179](#)





- ☐ Outer race/tapered roller bearing seat adapted in transmission housing
- ☐ Allocation. Refer to the Parts Catalog.

15 - Outer Race/Tapered Roller Bearing

- ☐ Removing. Refer to
⇒ [Fig. "Removing the outer race/tapered roller bearing from the transmission housing"](#) , page 176
- ☐ Installing. Refer to
⇒ [Fig. "Installing the outer race/tapered roller bearing into the transmission housing."](#) , page 176

16 - Bearing Inner Race/Taper Roller Bearing

- ☐ Removing. Refer to ⇒ [Fig. "Removing the Bearing Inner Race/Taper Roller Bearing"](#) , page 176
- ☐ Installing. Refer to ⇒ [Fig. "Installing the Bearing Inner Race/Taper Roller Bearing"](#) , page 176

17 - Differential Housing

- ☐ With final drive gear wheel

18 - Adapter Sleeve

- ☐ To secure the differential bevel gear axle
- ☐ sheared off at removal. Refer to ⇒ [Fig. "Removing the Differential Bevel Gear Axle"](#) , page 178

19 - Bearing Inner Race/Taper Roller Bearing

- ☐ Removing. Refer to ⇒ [Fig. "Removing the bearing inner race/taper roller bearing"](#) , page 177
- ☐ Installing. Refer to ⇒ [Fig. "Installing the Bearing Inner Race/Taper Roller Bearing"](#) , page 177

20 - Outer Race/Tapered Roller Bearing

- ☐ Removing. Refer to
⇒ [Fig. "Pressing tapered roller bearing outer race -A- out from clutch housing"](#) , page 177
- ☐ Installing. Refer to
⇒ [Fig. "Installing outer race/tapered roller bearing into the clutch housing"](#) , page 177

21 - Shim S2

- ☐ For the differential
- ☐ Selecting thickness. Refer to ⇒ ["2.2 Differential, Adjusting"](#) , page 178.

22 - Seal

- ☐ For the right flange shaft
- ☐ replace with transmission installed ⇒ ["1.2 Right Flange Shaft Seal, Replacing"](#) , page 171

23 - Transmission Housing

- ☐ Servicing. Refer to ⇒ ["7 Transmission Housing and Clutch Housing, Servicing"](#) , page 127 .
- ☐ Shim S1 is deleted as of production date 12/04/2006
⇒ [Fig. "Shim S1 for the outer race/tapered roller bearing is deleted as of production date 04/12/2006."](#) , page 179
- ☐ Outer race/tapered roller bear seat adapted
- ☐ Allocation. Refer to the Parts Catalog.

24 - Clutch Housing

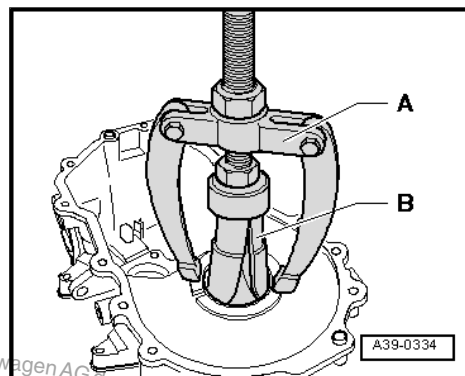
- ☐ Servicing. Refer to ⇒ ["7 Transmission Housing and Clutch Housing, Servicing"](#) , page 127 .



Removing the outer race/tapered roller bearing from the transmission housing

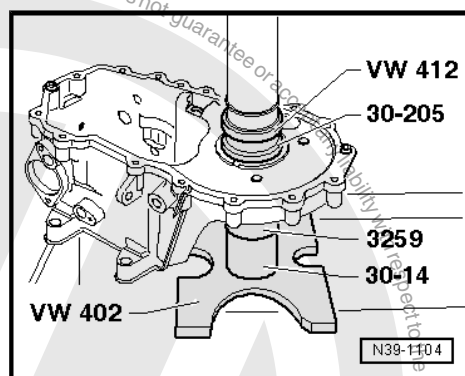
A - for example Puller - Kukko Counterstay - 22/2-

B - for example Puller - Kukko Internal - 46-56mm - 21/7-

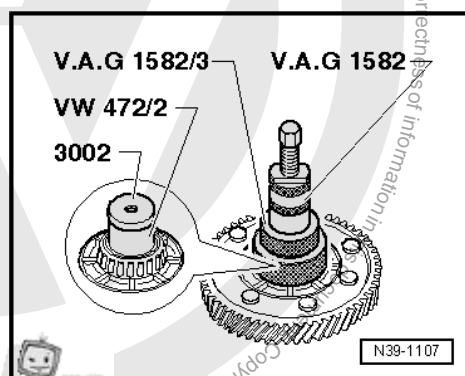


Installing the outer race/tapered roller bearing into the transmission housing.

- Support the transmission housing directly under the bearing mount using the Press Piece - Bushing - 3259- .
- See if a shim S₁ must be inserted under the outer race. Refer to
⇒ Fig. [“Shim S₁ for the outer race/tapered roller bearing is deleted as of production date 04/12/2006.”](#), page 179 .
- If necessary, place a 1 mm shim S₁ under the outer race.



Removing the Bearing Inner Race/Taper Roller Bearing



Installing the Bearing Inner Race/Taper Roller Bearing

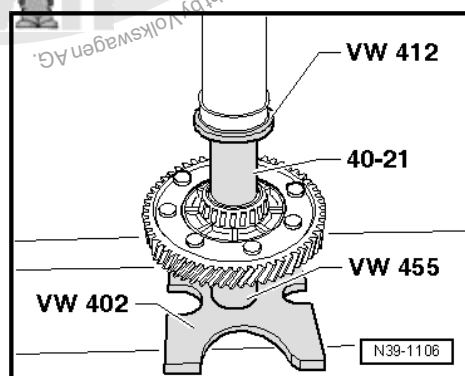


WARNING

Wear safety gloves.

- Heat inner races/tapered roller bearing inner race to approximately 100 °C (212 °F) before installing.
- Support the bearing inner race on the opposite side with the Press Piece - Multiple Use - VW455- .

The shoulder of the Press Piece - Multiple Use - VW455- points to the differential housing.

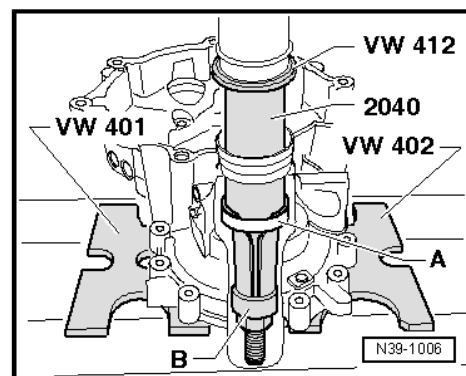




Pressing tapered roller bearing outer race -A- out from clutch housing

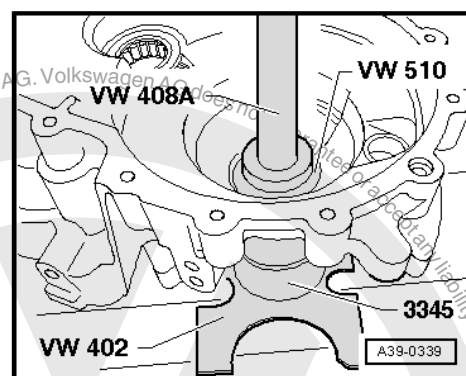
B - for example Puller - Kukko Internal - 46-56mm - 21/7-

- Tension internal puller securely behind tapered roller bearing inner race.



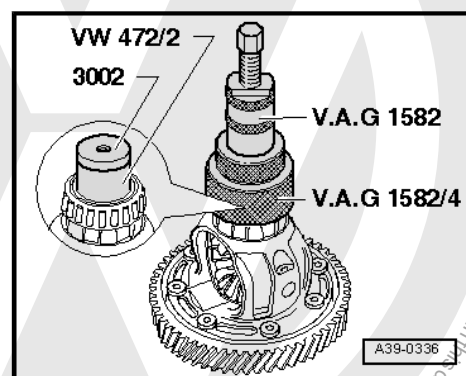
Installing outer race/tapered roller bearing into the clutch housing

- Support clutch housing directly beneath bearing mount using Bearing Installer - Wheel Bearing - 3345- .



Removing the bearing inner race/taper roller bearing

- Before installing the puller, place the Press Piece - Multiple Use - VW472/2- und Press Piece Output Shaft Gear/Final Drive Gear - 3002- on the differential housing.



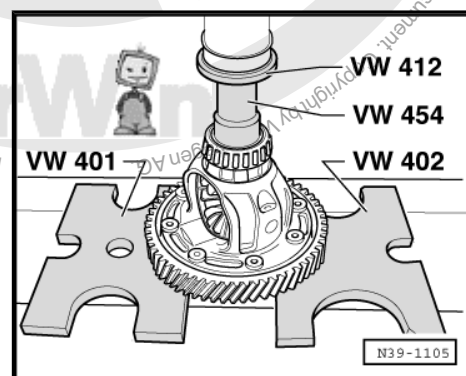
Installing the Bearing Inner Race/Taper Roller Bearing



WARNING

Wear safety gloves.

- Heat inner races/tapered roller bearing inner race to approximately 100 °C (212 °F) before installing.

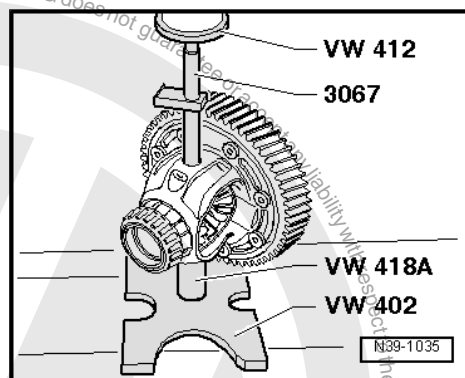




Removing the Differential Bevel Gear Axle

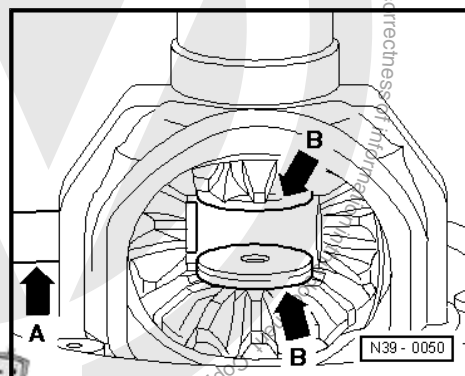
Spring pin is sheared off when it is removed.

- Drive remaining part of roller pin out of differential housing.



Installing the Differential Bevel Gears

- Insert thrust washer union with transmission fluid.
- Install and secure both large differential planetary gears, for example, with a flange shaft.
- Insert the small differential planetary gears 180° offset and pivot them into position.
- Press the differential bevel gear axle -arrow A- up to the first small differential bevel gear.
- Insert threaded pieces -arrow B- into the large differential planetary gears.
- Install the differential bevel gear axle up to the end position and secure it with a new spring pin.



2.2 Differential, Adjusting

Special tools and workshop equipment required

- ◆ Measuring Set - Magnetic Plate - 50mm - VW385/17-
- ◆ Dial Gauge Holder - VW387-
- ◆ Press Plate - VW401-
- ◆ Press Plate - VW402-
- ◆ Press Piece - Rod - VW408A-
- ◆ Press Piece - Rod - VW412-
- ◆ Press Piece - Multiple Use - VW510-
- ◆ Press Piece - Multiple Use - 30-14-
- ◆ Press Piece - Front Control Arm - 2040-
- ◆ Press Piece - Bushing - 3259-
- ◆ Bearing Installer - Wheel Bearing - 3345-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Press Piece - Multiple Use - 30-205-
- ◆ Dial Gauge

A new differential adjustment is required when the following components have been replaced:

- ◆ Transmission Housing
- ◆ Clutch Housing
- ◆ Differential housing

or the



◆ Differential tapered roller bearing

Shim S₁ for the outer race/tapered roller bearing is deleted as of production date 04/12/2006.

The outer race/tapered roller bearing seat has been adapted.

- Measure the bearing seat depth in the transmission housing for the outer race/tapered roller bearing.

Dimension -a-	Shim S ₁
15.2 mm	No
16.2 mm	Yes

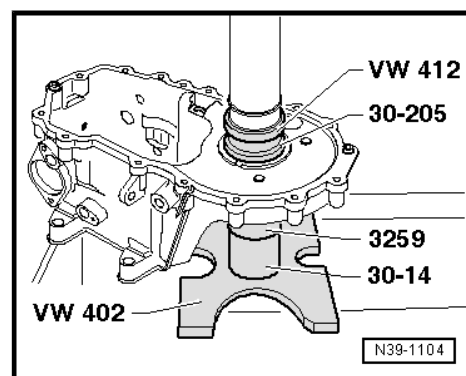
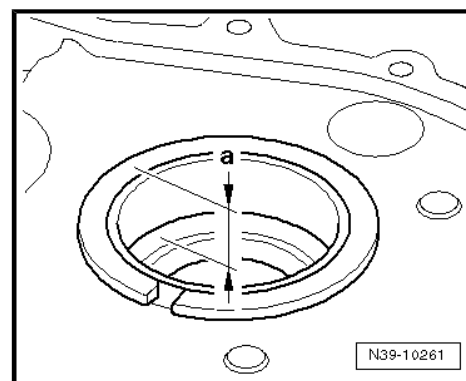
Continuation for All

- Install the outer race/tapered roller bearing into the transmission housing, if necessary, with a 1 mm shim S₁.

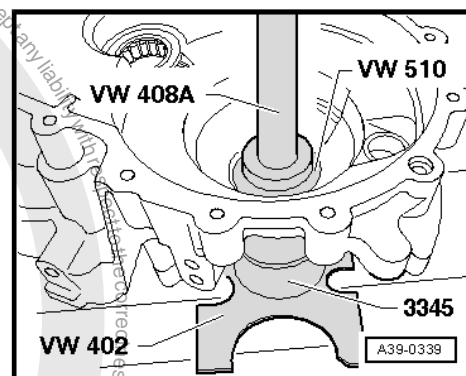


Note

Bearing inner- and outer race of tapered roller bearing are paired. Do not interchange them.



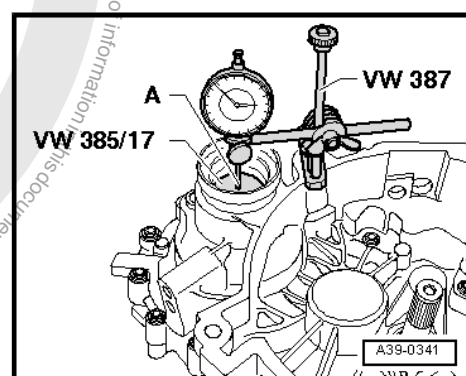
- Install the tapered roller bearing inner race (opposite drive gear side) without adjustment shim into the clutch housing.
- Insert the differential into the transmission housing.
- Position clutch housing and tighten 5 bolts to the tightening specification. Refer to [6.4 Overview - Clutch Housing, Removing and Installing](#), page 115.



- Attach the Dial Gauge Holder - VW387- and set the dial gauge to "0" with 1 mm preload.

A - 30 mm dial gauge extension

- Move differential up and down, read off play on dial gauge and note. (Example: 1.50 mm)



2.3 Differential Shim S₂, Selecting

The specified bearing pre-load is obtained by adding a constant pre-load figure of 0.35 mm to the reading obtained for S₂.

Example:

Measured value	1.50 mm
----------------	---------



+ Preload (constant value) 0.35 mm

Shim thickness S₂ = 1.85 mm

- Remove clutch housing and press out tapered roller bearing inner race -A-.

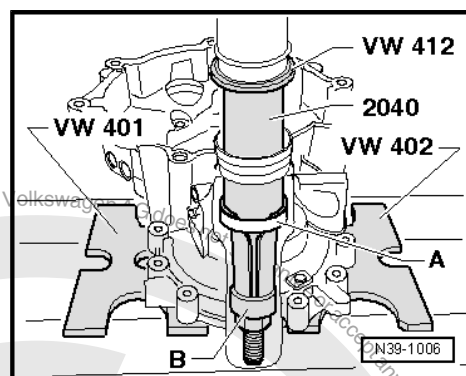
B - for example Puller - Kukko Internal - 46-56mm - 21/7-

- Allocate adjustment shim(s) using the Parts Catalog.

Tolerance variations make it possible to find the exact shim thickness required.

If the measured washer thickness is greater than that listed in Parts Catalog, two washers that correspond to the measured value can be installed.

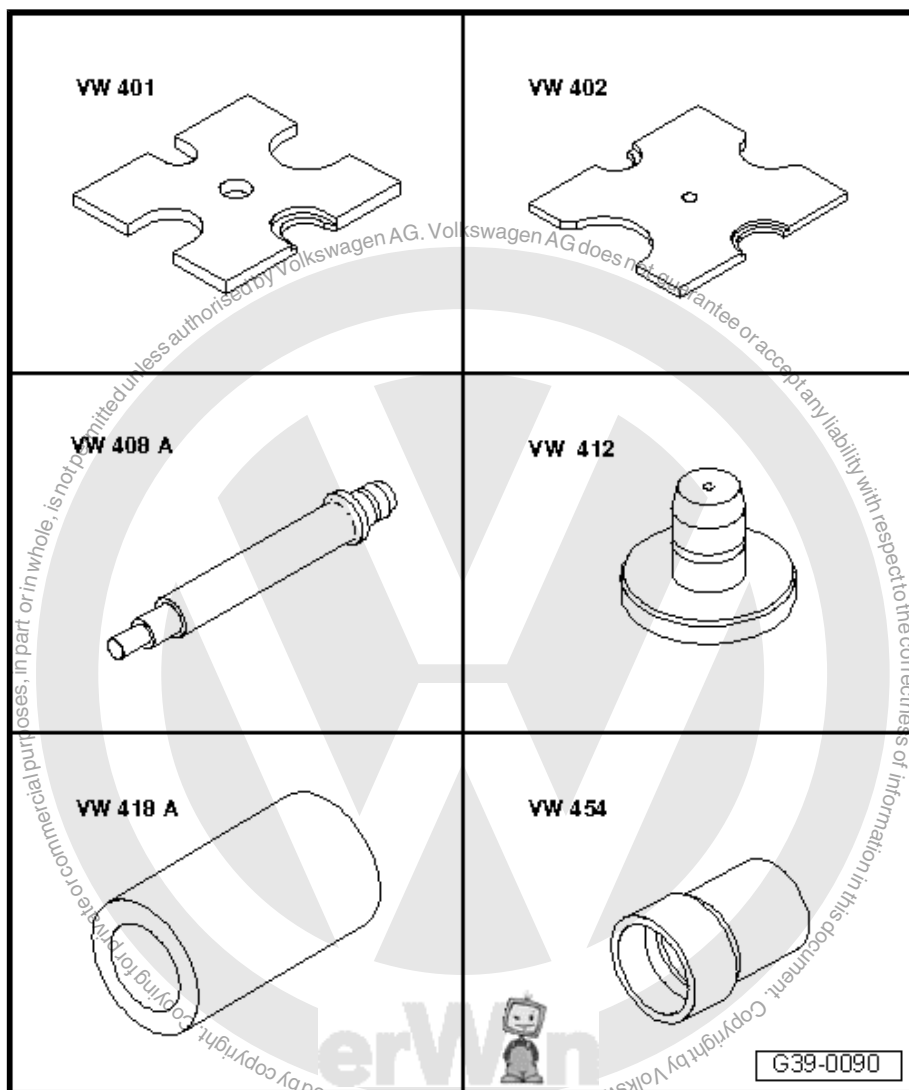
- Insert the shim S₂ (1.85 mm in example) and press tapered roller bearing inner race into clutch housing again.
- Position clutch housing and tighten bolts to torque. Refer to [⇒ "6.4 Overview - Clutch Housing, Removing and Installing", page 115](#).





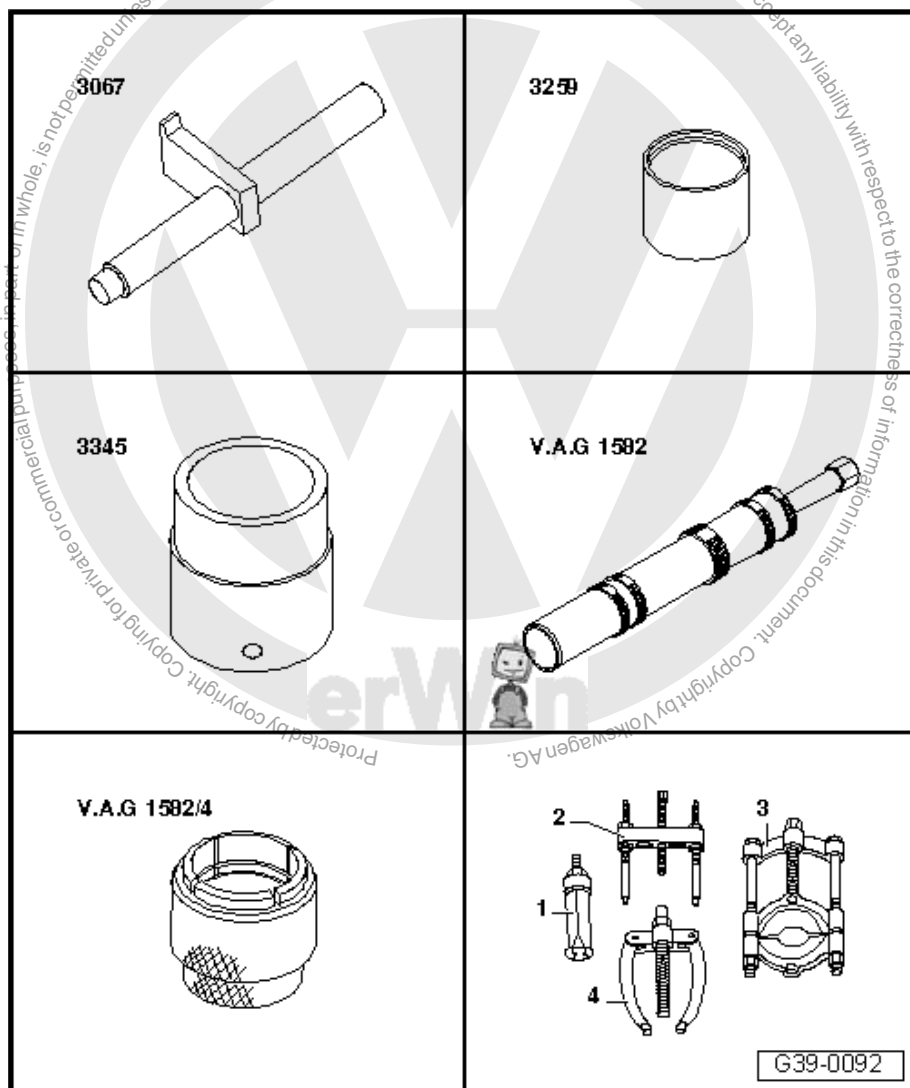
3 Special Tools

- ◆ Press Plate - VW401-
- ◆ Press Plate - VW402-
- ◆ Punch - VW408A-
- ◆ Punch - VW412-
- ◆ Press Piece - 60mm - VW418A-
- ◆ Seal Installer - One-Piece Seal - VW454-



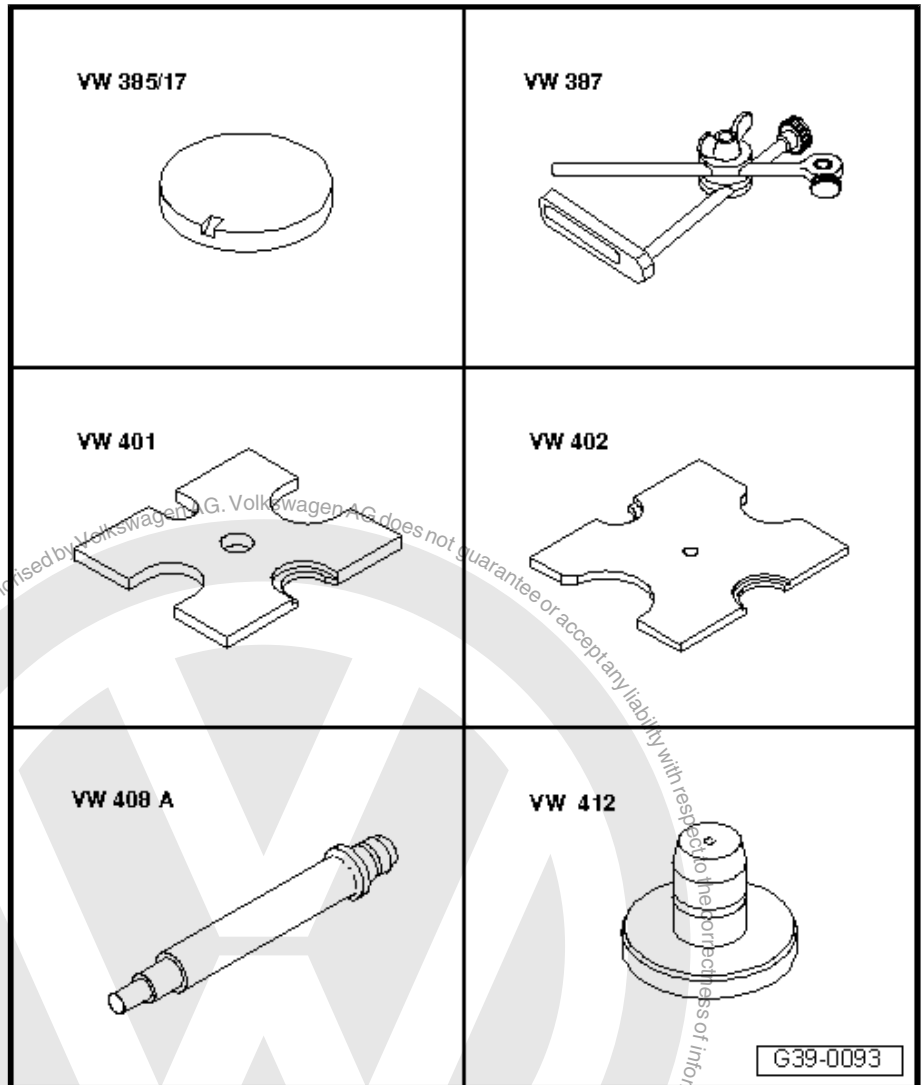


- ◆ Flywheel Retainer - 3067-
- ◆ Tube - 3259-
- ◆ Press Tool - 3345-
- ◆ Taper Roller Bearing Puller - VAG1582-
- ◆ Puller - Taper Roller Bearing - Adapter 4 - VAG1582/4-
- ◆ Puller - Kukko Internal - 46-56mm - 21/7-
- ◆ Puller - Kukko Counterstay - 22/2-



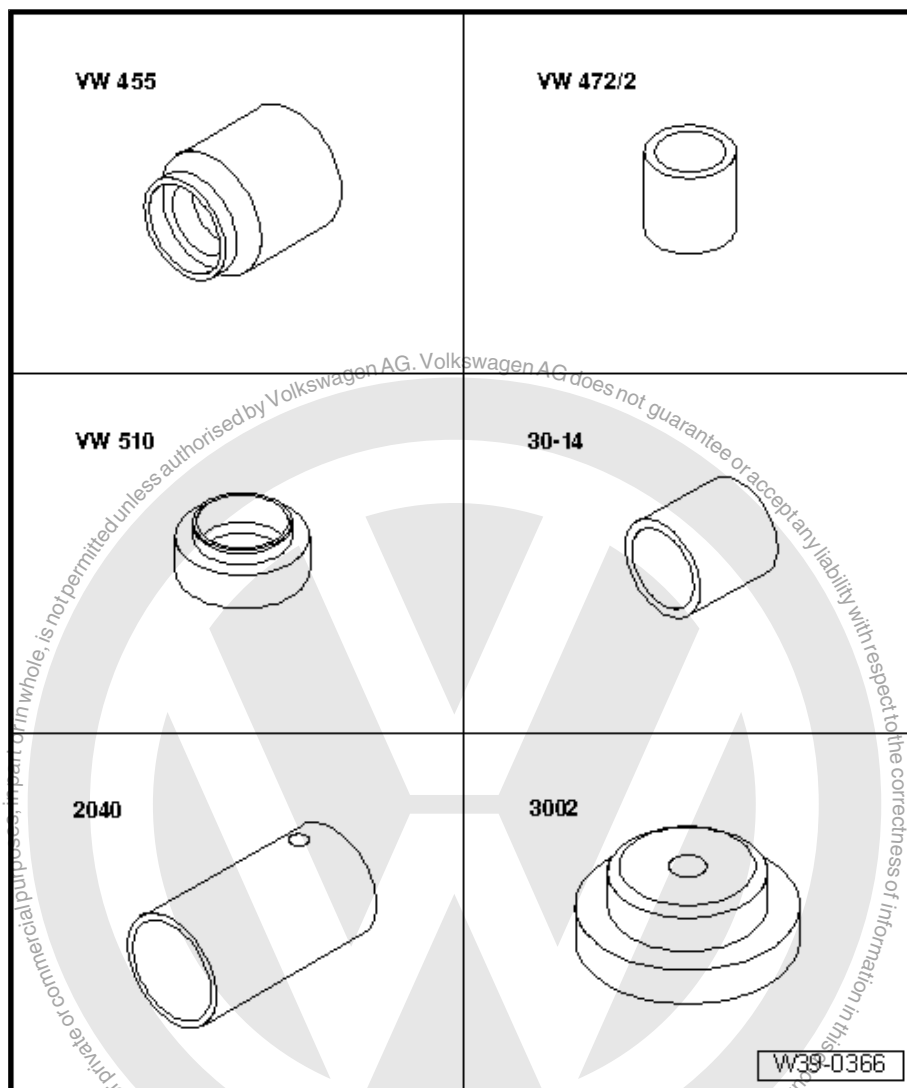


- ◆ Magnetic Plate 50 mm Diameter - VW385/17-
- ◆ Universal Dial Gauge Mount - VW387-
- ◆ Press Plate - VW401-
- ◆ Press Plate - VW402-
- ◆ Press Piece - Rod - VW408-
- ◆ Press Piece - Rod - VW412-



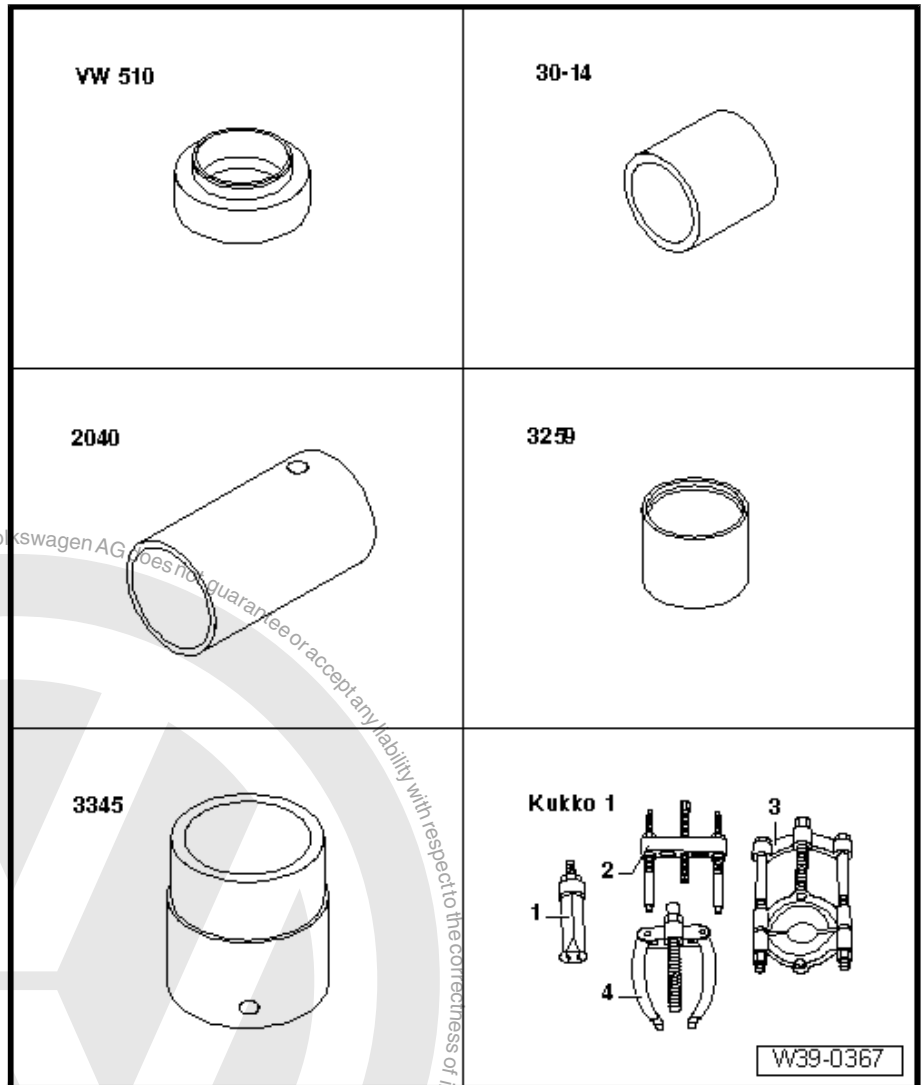


- ◆ Thrust Tube - VW455-
- ◆ Spacing Sleeve - VW472/2-
- ◆ Press Piece - Multiple Use - VW510-
- ◆ Press Piece - Multiple Use - 30-14-
- ◆ Press Piece - Front Control Arm - 2040-
- ◆ Seal Installer - One-Piece Seal - 3002-



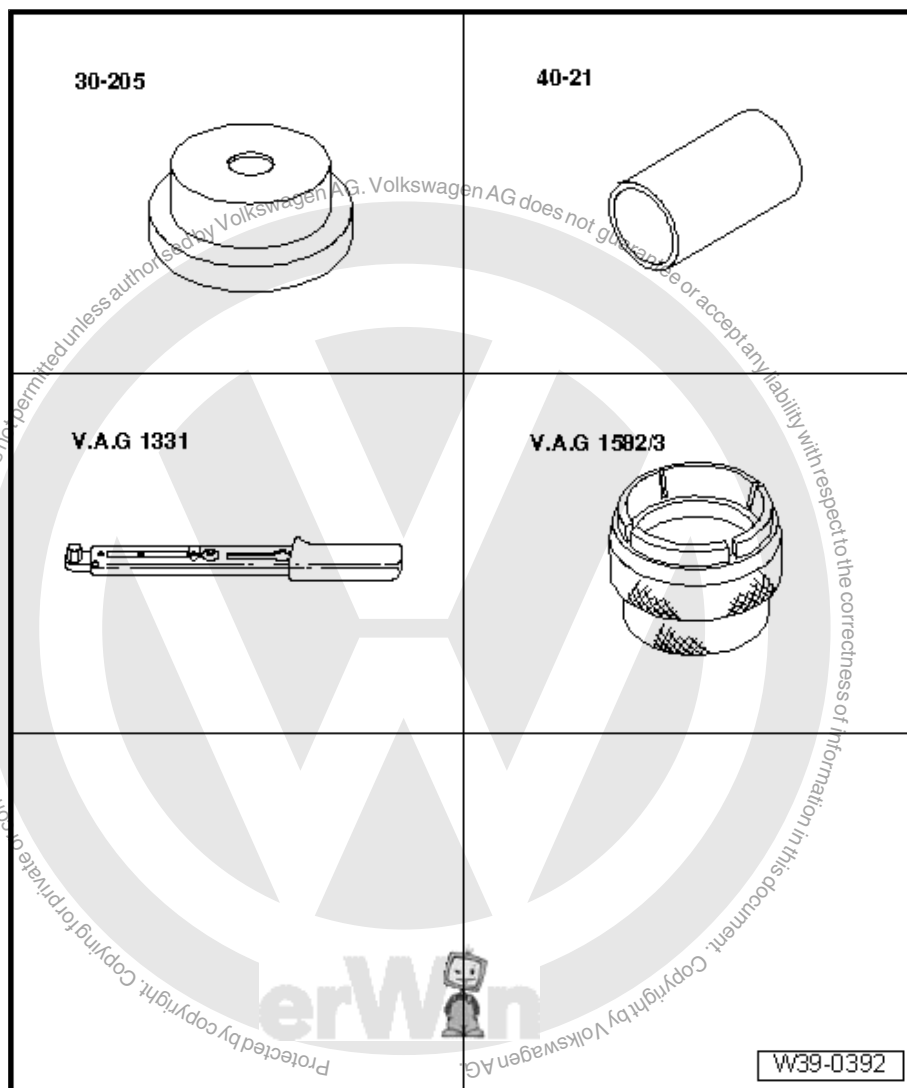


- ◆ Press Piece - Multiple Use
- VW510-
- ◆ Press Piece - Multiple Use
- 30-14-
- ◆ Press Piece - Front Control
Arm - 2040-
- ◆ Tube - 3259-
- ◆ Press Tool - 3345-
- ◆ Torque Wrench 5-50 Nm -
VAG1331-
- ◆ Dial Gauge

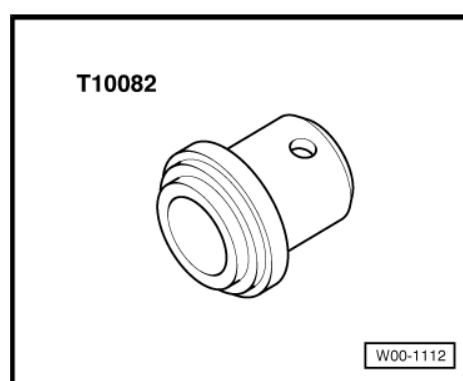




- ◆ Press Piece - Multiple Use - 30-205-
- ◆ Press Tube - 40-21-
- ◆ Torque Wrench 5-50 Nm - VAG1331-
- ◆ Puller - Taper Roller Bearing - Adapter 3 - VAG1582/3-

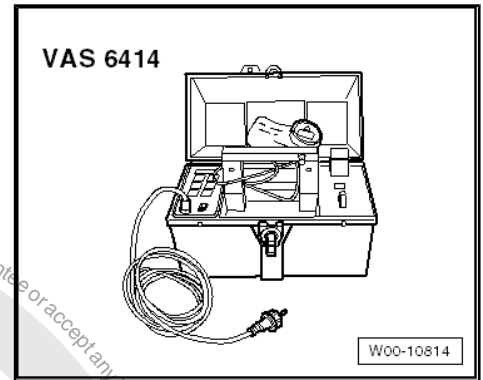


- ◆ Press Piece - Multiple Use - T10082-

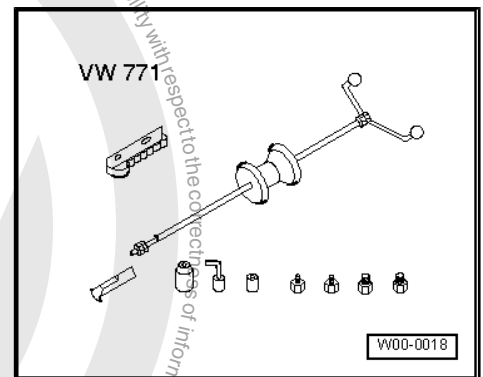




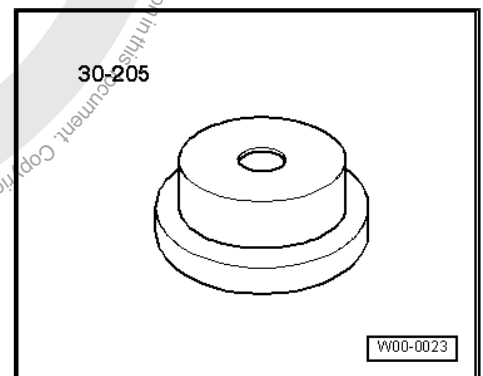
◆ Inductive Heater - VAS6414-



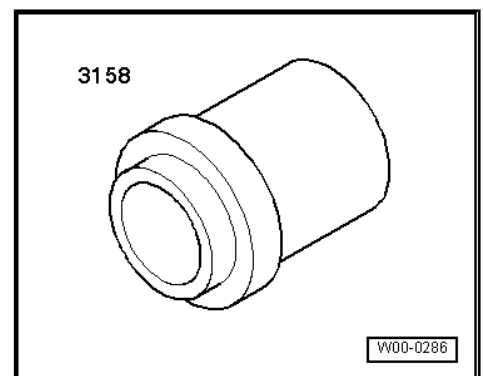
◆ Slide Hammer-Complete Set - VW771-



◆ Press Piece - Multiple Use - 30-205-



◆ Seal Installer - Axle Flange - 3158-





4 Revision History

DRUCK NUMBER: KO258990521

Fac- tory Edi- tion	Edit Edi- tion	Job Type	Im pa ct	Fe ed ba ck	Notes	Quality Check ed By
11.2 014	08/1 6/20 16	Lo- cal Up- date	Lo w		Change Obergrup to "Drivetrain"	Tom Perry
11.2 014	06/2 015	Re- for- mat				JY
11.2 014	11/2 014	Fac- tory Up- date				EP



Cautions & Warnings

Please read these WARNINGS and CAUTIONS before proceeding with maintenance and repair work. You must answer that you have read and you understand these WARNINGS and CAUTIONS before you will be allowed to view this information.

- If you lack the skills, tools and equipment, or a suitable workshop for any procedure described in this manual, we suggest you leave such repairs to an authorized Volkswagen retailer or other qualified shop. We especially urge you to consult an authorized Volkswagen retailer before beginning repairs on any vehicle that may still be covered wholly or in part by any of the extensive warranties issued by Volkswagen.
- Disconnect the battery negative terminal (ground strap) whenever you work on the fuel system or the electrical system. Do not smoke or work near heaters or other fire hazards. Keep an approved fire extinguisher handy.
- Volkswagen is constantly improving its vehicles and sometimes these changes, both in parts and specifications, are made applicable to earlier models. Therefore, part numbers listed in this manual are for reference only. Always check with your authorized Volkswagen retailer parts department for the latest information.
- Any time the battery has been disconnected on an automatic transmission vehicle, it will be necessary to reestablish Transmission Control Module (TCM) basic settings using the VAG 1551 Scan Tool (ST).
- Never work under a lifted vehicle unless it is solidly supported on stands designed for the purpose. Do not support a vehicle on cinder blocks, hollow tiles or other props that may crumble under continuous load. Never work under a vehicle that is supported solely by a jack. Never work under the vehicle while the engine is running.
- For vehicles equipped with an anti-theft radio, be sure of the correct radio activation code before disconnecting the battery or removing the radio. If the wrong code is entered when the power is restored, the radio may lock up and become inoperable, even if the correct code is used in a later attempt.
- If you are going to work under a vehicle on the ground, make sure that the ground is level. Block the wheels to keep the vehicle from rolling. Disconnect the battery negative terminal (ground strap) to prevent others from starting the vehicle while you are under it.
- Do not attempt to work on your vehicle if you do not feel well. You increase the danger of injury to yourself and others if you are tired, upset or have taken medicine or any other substances that may impair you or keep you from being fully alert.
- Never run the engine unless the work area is well ventilated. Carbon monoxide (CO) kills.
- Always observe good workshop practices. Wear goggles when you operate machine tools or work with acid. Wear goggles, gloves and other protective clothing whenever the job requires working with harmful substances.
- Tie long hair behind your head. Do not wear a necktie, a scarf, loose clothing, or a necklace when you work near machine tools or running engines. If your hair, clothing, or jewelry were to get caught in the machinery, severe injury could result.
- Do not re-use any fasteners that are worn or deformed in normal use. Some fasteners are designed to be used only once and are unreliable and may fail if used a second time. This includes, but is not limited to, nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual - replace these fasteners with new parts where indicated, and any other time it is deemed necessary by inspection.

Cautions & Warnings

- Illuminate the work area adequately but safely. Use a portable safety light for working inside or under the vehicle. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.
- Friction materials such as brake pads and clutch discs may contain asbestos fibers. Do not create dust by grinding, sanding, or by cleaning with compressed air. Avoid breathing asbestos fibers and asbestos dust. Breathing asbestos can cause serious diseases such as asbestosis or cancer, and may result in death.
- Finger rings should be removed so that they cannot cause electrical shorts, get caught in running machinery, or be crushed by heavy parts.
- Before starting a job, make certain that you have all the necessary tools and parts on hand. Read all the instructions thoroughly; do not attempt shortcuts. Use tools that are appropriate to the work and use only replacement parts meeting Volkswagen specifications. Makeshift tools, parts and procedures will not make good repairs.
- Catch draining fuel, oil or brake fluid in suitable containers. Do not use empty food or beverage containers that might mislead someone into drinking from them. Store flammable fluids away from fire hazards. Wipe up spills at once, but do not store the oily rags, which can ignite and burn spontaneously.
- Use pneumatic and electric tools only to loosen threaded parts and fasteners. Never use these tools to tighten fasteners, especially on light alloy parts. Always use a torque wrench to tighten fasteners to the tightening torque listed.
- Keep sparks, lighted matches, and open flame away from the top of the battery. If escaping hydrogen gas is ignited, it will ignite gas trapped in the cells and cause the battery to explode.
- Be mindful of the environment and ecology. Before you drain the crankcase, find out the proper way to dispose of the oil. Do not pour oil onto the ground, down a drain, or into a stream, pond, or lake. Consult local ordinances that govern the disposal of wastes.
- The air-conditioning (A/C) system is filled with a chemical refrigerant that is hazardous. The A/C system should be serviced only by trained automotive service technicians using approved refrigerant recovery/recycling equipment, trained in related safety precautions, and familiar with regulations governing the discharging and disposal of automotive chemical refrigerants.
- Before doing any electrical welding on vehicles equipped with anti-lock brakes (ABS), disconnect the battery negative terminal (ground strap) and the ABS control module connector.
- Do not expose any part of the A/C system to high temperatures such as open flame. Excessive heat will increase system pressure and may cause the system to burst.
- When boost-charging the battery, first remove the fuses for the Engine Control Module (ECM), the Transmission Control Module (TCM), the ABS control module, and the trip computer. In cases where one or more of these components is not separately fused, disconnect the control module connector(s).
- Some of the vehicles covered by this manual are equipped with a supplemental restraint system (SRS), that automatically deploys an airbag in the event of a frontal impact. The airbag is operated by an explosive device. Handled improperly or without adequate safeguards, it can be accidentally activated and cause serious personal injury. To guard against personal injury or airbag system failure, only trained Volkswagen Service technicians should test, disassemble or service the airbag system.

Cautions & Warnings

- Do not quick-charge the battery (for boost starting) for longer than one minute, and do not exceed 16.5 volts at the battery with the boosting cables attached. Wait at least one minute before boosting the battery a second time.
- Never use a test light to conduct electrical tests of the airbag system. The system must only be tested by trained Volkswagen Service technicians using the VAG 1551 Scan Tool (ST) or an approved equivalent. The airbag unit must never be electrically tested while it is not installed in the vehicle.
- Some aerosol tire inflators are highly flammable. Be extremely cautious when repairing a tire that may have been inflated using an aerosol tire inflator. Keep sparks, open flame or other sources of ignition away from the tire repair area. Inflate and deflate the tire at least four times before breaking the bead from the rim. Completely remove the tire from the rim before attempting any repair.
- When driving or riding in an airbag-equipped vehicle, never hold test equipment in your hands or lap while the vehicle is in motion. Objects between you and the airbag can increase the risk of injury in an accident.

I have read and I understand these Cautions and Warnings.

